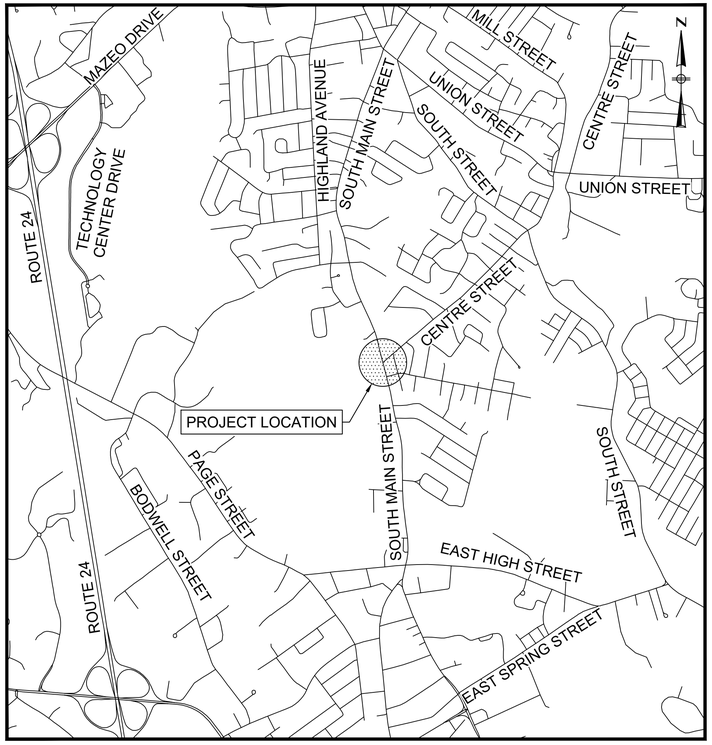
TOWN OF RANDOLPH, MA
DEPARTMENT OF PUBLIC WORKS

SOUTH MAIN STREET & CENTRE STREET INTERSECTION IMPROVEMENTS

MARCH 2026



PROJECT LOCATION

LOCATION MAP
SCALE: 1"=1500'

PLAN INDEX

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	LEGEND & ABBREVIATIONS
3	GENERAL NOTES
4 - 5	CONSTRUCTION DETAILS & PAVEMENT NOTES
6	GENERAL PLAN
7	PROFILE - SOUTH MAIN STREET
8	CURB AND TIE PLAN
9	SIGN, PAVEMENT MARKING, TRAFFIC SIGN SUMMARY & SIGNAL PLAN
10	SIGNAL DATA
11 - 13	TEMPORARY TRAFFIC CONTROL PLAN

THESE PLANS ARE SUPPLEMENTED BY THE LATEST EDITIONS OF THE FOLLOWING PUBLICATIONS: THE MASSDOT CONSTRUCTION STANDARD DETAILS, THE MASSDOT STANDARD DRAWINGS FOR SIGNS AND SUPPORTS, THE MASSDOT STANDARD DRAWING FOR TRAFFIC SIGNAL AND HIGHWAY LIGHTING, THE MASSDOT OVERHEAD SIGNAL STRUCTURE AND FOUNDATION STANDARD DRAWINGS, THE MASSDOT TRAFFIC MANAGMENT PLANS AND DETAILS DRAWINGS, AND THE ANSI AMERICAN STANDARD FOR NURSERY STOCK

PREPARED BY:

BETA
www.BETA-Inc.com

ISSUE DATE: 03/09/2026

COMMONWEALTH OF MASSACHUSETTS
GLENN E STEVENS
No. 54748
REGISTERED PROFESSIONAL ENGINEER

03/12/2026

REGISTERED PROFESSIONAL DATE

LEGEND

GENERAL SYMBOLS

EXISTING	PROPOSED	
		CURB OR BERM (TYPE AS NOTED)
		EDGE OF PAVEMENT
CB	CB	CATCH BASIN (OR GUTTER INLET, LEACHING BASIN, DROP INLET, CATCH BASIN CURB INLET)
EHH	EHH	ELECTRIC HANDHOLE (NUMBER AS NOTED)
E	EMH	ELECTRIC MANHOLE
T	TMH	TELEPHONE MANHOLE
W	WMH	WATER MANHOLE
S	SMH	SEWER MANHOLE
D	DMH	DRAINAGE MANHOLE
GG	GG	GAS GATE
WG	WG	WATER GATE
CS	CS	CURB STOP
HYD.	HYD	HYDRANT
FA	FAB	FIRE ALARM BOX
PM		PARKING METER
LP		STREET LIGHT POLE
UP	UP	UTILITY POLE
UPL	UPL	UTILITY POLE w/ LIGHT
		SIGN
GUY	GUY	GUY POLE
12" RCP	10'-12" RCP	DRAIN PIPE (SIZE AS NOTED)
8" VCP	10'-8" PVC	SEWER MAIN (SIZE AS NOTED)
	10'-8" PVC	ELECTRIC DUCT
4" HP	10'-4" HP	GAS MAIN (SIZE AS NOTED)
8" CI	10'-8" DI	WATER MAIN (SIZE AS NOTED)
	10'-8" PVC	TELEPHONE DUCT (SIZE AS NOTED)
EOH	OHW	OVERHEAD WIRE
MB	MB	MAIL BOX
		WOOD GUARD RAIL STEEL BEAM GUARD, WOOD OR STEEL POSTS (TYPE AS NOTED)
		STEEL GUARD RAIL, STEEL POSTS (TYPE NOTED)
		STONE WALL
		RETAINING WALL (TYPE NOTED)
BND	BND	HIGHWAY/PROPERTY BOUND (TYPE AS NOTED)
SHLO (Date of Layout)		STATE HIGHWAY LAYOUT LINE (SHLO)
		CITY, TOWN OR COUNTY LAYOUT LINE (R.O.W.)
Boundary Name		CITY, TOWN, COUNTY OR STATE BOUNDARY LINE
℄		PROPERTY LINE
		EASEMENT LINE (TYPE NOTED)
	2+00	CONSTRUCTION BASELINE
N00°00'00"E 000.00'		SURVEY LINE
		RAILROAD OR STREET RAILWAY TRACKS WITH SIDELINES
		WHEELCHAIR RAMP
24" PINE		TREE (SIZE AND TYPE AS NOTED)
		HEDGE/SHRUBS
WF-1	x x x	FENCE (SIZE AND TYPE AS NOTED)
		EDGE OF WETLAND W/ FLAGGED NUMBER
		EDGE OF RIVER/STREAM LINE
		100-FT. WETLAND BUFFER LIMIT
		100-FT. RIVER FRONT LIMIT
		200-FT. RIVER FRONT LIMIT
		WOODED AREA / LIMIT OF CLEARING
x 00.0	x 00.00	SPOT GRADE
		SAW CUT LINE
	TP-1	TEST PIT
	B-1	BORING
ECB	ECB	EROSION CONTROL BARRIER/COMPOST FILTER TUBES

ABBREVIATIONS

GENERAL

ABAN.	ABANDON
ADJ.	ADJUST
ALT.	ALTERATION
APPROX.	APPROXIMATE
℄	BASELINE
B.B.	BITUMINOUS BERM
B.C.	BITUMINOUS CURB
BD OR BND	BOUND
BLDG.	BUILDING
B.O.	BY OTHERS
BOS	BOTTOM OF SLOPE
BOW	BOTTOM OF WALL
BSW	BACK OF SIDEWALK
C.C.	CONCRETE CURB
CEM.	CEMENT
CLF	CHAIN LINK FENCE
CONC.	CONCRETE
CONST.	CONSTRUCTION
CONT.	CONTINUOUS
DWY	DRIVEWAY
E.P., EOP	EDGE OF PAVEMENT
EL.	ELEVATION
ESMT.	EASEMENT
EXIST.	EXISTING
FDN.	FOUNDATION
GRAN.	GRANITE
GC	GRANITE CURB
HOR.	HORIZONTAL
IP	IRON PIPE
JCT	JUNCTION
LP	LOW POINT
MB	MAIL BOX
MHB	MASSACHUSETTS HIGHWAY BOUND
O.C.	ON CENTER
PCC	POINT OF COMPOUND CURVATURE
PC	POINT OF CURVATURE
PRC	POINT OF REVERSE CURVATURE
PI	POINT OF INTERSECTION
PT	POINT OF TANGENCY
PVC	POINT OF VERTICAL CURVATURE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY
PERM.	PERMANENT
PGL	PROFILE GRADE LINE
PROP.	PROPOSED
PVC	POINT OF VERTICAL CURVATURE
PVMT.	PAVEMENT
R	RADIUS OF CURVATURE
R&D	REMOVE AND DISCARD
R&R	REMOVE AND RESET
R&S	REMOVE AND STACK
REM.	REMOVE
REMOD.	REMODEL
RET.	RETAIN
RR	RAILROAD
RT.	RIGHT
SB	SOUTH BOUND OR STONE BOUND
SDWK.	SIDEWALK
SHT.	SHEET
SHLD.	SHOULDER
STA.	STATION
TEMP.	TEMPORARY
TOS	TOP OF SLOPE
TOW	TOP OF WALL
TYP.	TYPICAL
VAR.	VARIABLE
VERT.	VERTICAL
VGC	VERTICAL GRANITE CURB
WCR	WHEELCHAIR RAMP

TRAFFIC SIGNAL SYSTEMS

R	STEADY CIRCULAR RED
Y	STEADY CIRCULAR AMBER
G	STEADY CIRCULAR GREEN
FR	FLASHING CIRCULAR RED
FY	FLASHING CIRCULAR AMBER
←FY	FLASHING YELLOW LEFT ARROW
R→	STEADY RED RIGHT ARROW
Y→	STEADY AMBER RIGHT ARROW
G→	STEADY GREEN RIGHT ARROW
←R	STEADY RED LEFT ARROW
←Y	STEADY AMBER LEFT ARROW
←G	STEADY GREEN LEFT ARROW
W	STEADY WALK (PERSON WALKING) - LUNAR WHITE
DW	STEADY DON'T WALK (HAND) - PORTLAND ORANGE
FDW	FLASHING DON'T WALK (FLASHING HAND) - PORTLAND ORANGE

UTILITIES

ACCMP	ASPHALT COATED CORRUGATED METAL PIPE
CAP	CORRUGATED ALUMINUM PIPE
CB	CATCH BASIN
CBCI	CATCH BASIN WITH CURB INLET
CI	CURB INLET
CIP	CAST IRON PIPE
CIT	CHANGE IN TYPE
CMP	CORRUGATED METAL PIPE
C	CONDUIT
CPP	CORRUGATED PLASTIC PIPE
CSP	CORRUGATED STEEL PIPE
DI	DROP INLET
DIP	DUCTILE IRON PIPE
F&C	FRAME AND COVER
F&G	FRAME AND GRATE
FM	FORCE MAIN
GI	GUTTER INLET
GIP	GALVANIZED IRON PIPE
GG	GAS GATE
HDW	HEADWALL
HYD.	HYDRANT
INV.	INVERT ELEVATION
LP	LIGHT POLE
MH	MANHOLE
PVC	POLY-VINYL-CHLORIDE PIPE
PWW	PAVED WATER WAY
RCP	REINFORCED CONCRETE PIPE (CLASS III UNLESS NOTED)
SD	SUBDRAIN
SMH	SEWER MANHOLE
TS	TRAFFIC SIGNAL
TSV&B	TAPPING SLEEVE, VALVE AND BOX
UP	UTILITY POLE
UPL	UTILITY POLE w/ LIGHT
UPT	UTILITY POLE w/ TRANSFORMER
VCP	VITRIFIED CLAY PIPE
WIP	WROUGHT IRON PIPE
WG	WATER GATE
WM	WATER METER/WATER MAIN

TRAFFIC SIGNAL SYMBOLS

EXISTING	PROPOSED	
		CONTROL CABINET GROUND MOUNTED WITH FOUNDATION
		CONTROL CABINET POLE MOUNTED
	Ø2	CONTROLLER PHASE
	MA-1	MAST ARM, SHAFT & BASE (ARM LENGTH AS NOTED)
		VEHICULAR SIGNAL HEAD (ALPHA-NUMERIC DESIGNATION AS NOTED)
		VEHICULAR SIGNAL HEAD, OPTICALLY PROGRAMMED
		VEHICULAR SIGNAL HEAD (REMOVED & RESET)
		FLASHING BEACON
		PEDESTRIAN SIGNAL HEAD
		PEDESTRIAN SIGNAL HEAD, OPTICALLY PROGRAMMED
HH		PULL BOX 12"x12" OR HANDHOLE
		LOOP DETECTOR
		PEDESTRIAN PUSH BUTTON, SIGN (DIRECTIONAL ARROW AS SHOWN) AND SADDLE
		PRE-EMPTION DETECTOR
		PRE-EMPTION CONFIRMATION STROBE
		SIGNAL CONDUIT (SINGLE RUN)
		SIGNAL CONDUIT (DOUBLE RUN)
		SIGNAL POST & BASE
M	M	MAGNETIC DETECTOR
		SCHOOL ZONE SPEED LIMIT SIGN
		MICROWAVE OR ULTRASONIC DETECTOR
		VIDEO DETECTION CAMERA
		VIDEO DETECTION ZONE

PAVEMENT MARKINGS AND SIGNING SYMBOLS

PROPOSED

CW	CROSSWALK, 2 - 12" WHITE LINES (8" WIDTH)
SL	STOP LINE - 12" WHITE LINE 4' BEHIND CW (TYP.)
SWEL	SOLID WHITE EDGE LINE - 4"
SWCHL	SOLID WHITE CHANNELIZING LINES - 12" (SPACING NOTED)
SWGL	SOLID WHITE GORE LINE 12" @ 33°, (SPACING NOTED)
SWL	SOLID WHITE LINE - 4"
SWPL	SOLID WHITE PARKING LINE - 4"
BWLL	BROKEN WHITE LANE LINE - 4"
DWLEx	DOTTED WHITE LANE EXTENSION LINE - 4" (2' LINE & 6' GAP)
DYLEx	DOTTED YELLOW LANE EXTENSION LINE - 4" (2' LINE & 6' GAP)
BYCL	BROKEN YELLOW CENTERLINE - 4"
DBYL	DOUBLE YELLOW LINE - 2 - 4" LINES
SYEL	SOLID YELLOW EDGE LINE - 4"
SYGL	SOLID YELLOW GORE LINE 12" @ 33°, (SPACING NOTED)
SYLL	SOLID YELLOW LANE LINE - 4"
SYCTEL	SOLID YELLOW CYCLE TRACK EDGE LINE - 4"
DYCTCL	DOTTED YELLOW CYCLE TRACK CENTERLINE - 4" (3' LINE & 9' GAP)
SCHOOL	SCHOOL ZONE - WHITE
	HANDICAP SYMBOL - WHITE
	PAVEMENT ARROW - WHITE
ONLY	LEGEND "ONLY" - WHITE

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: CM
DESIGNED BY: KL
CHECKED BY: DJ

REGISTERED PROFESSIONAL

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

SCALE: NONE
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE: **SOUTH MAIN STREET & CENTRE STREET INTERSECTION IMPROVEMENTS**
LEGEND & ABBREVIATIONS
RANDOLPH, MA

BETA JOB NO. 11615
ISSUE DATE 03/09/2026
SHEET NO. 2 OF 13

BETA GROUP INC. - TEMPLATE (BETA_STANDARD_TEMPLATE - 1.0.2024).CIVIL 3D (CIVIL 3D 2024) PLOTSTYLE (BETA STB BW.STB)
USERNAME(USERPROFILE) - C:\USERS\DJOHNSON\BETA GROUP, INC\RANDOLPH, MA - MAIN ST & CENTER ST\DRAWING FILES\PLANSET\11615 LEGEND & ABBREVIATIONS.DWG
3/9/2026 10:57 AM

GENERAL NOTES

1. THE LOCATION OF SUBSURFACE UTILITIES SHOWN IS APPROXIMATE AND NOT GUARANTEED TO BE COMPLETE OR ACCURATE. THE CONTRACTOR SHALL VERIFY THE LOCATIONS AND ELEVATIONS OF EXISTING UTILITY LINES AND STRUCTURES PRIOR TO COMMENCEMENT OF WORK. THE CONTRACTOR MUST NOTIFY DIG SAFE 72 HOURS PRIOR TO ANY EXCAVATION, DEMOLITION OR EXPLOSIVE WORK IN PUBLIC OR PRIVATE WAYS OR UTILITY COMPANY RIGHT-OF-WAY OR EASEMENT.
2. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE ENGINEER FOR THE RESOLUTION OF THE CONFLICT.
3. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ABUTTING PROPERTIES AT ALL TIMES AND NOTIFY ALL ABUTTERS IN ADVANCE OF ANY INTERRUPTIONS TO ACCESS.
4. THE CONTRACTOR SHALL ALTER THE MASONRY OF THE TOP SECTION OF ALL EXISTING DRAINAGE AND SANITARY STRUCTURES AS NECESSARY FOR THE CHANGES IN GRADE, AND RESET ALL WATER AND DRAINAGE FRAMES, GRATES AND BOXES TO THE PROPOSED FINISH SURFACE GRADE. REQUIRED NEW MASONRY SHALL BE CLAY BRICK CONFORMING TO M4.05.2 OF MASSDOT STANDARD SPECIFICATIONS.
5. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE, CABLE TV, FIRE ALARM AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES. ALL UTILITY CASTING SHALL BE ADJUSTED TO FINISH GRADE BY THEIR RESPECTIVE OWNERS.
6. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
7. THE TERM "PROPOSED" (PROP.) MEANS WORK TO BE CONSTRUCTED USING NEW MATERIALS OR, WHERE APPLICABLE, RE-USING EXISTING MATERIALS IDENTIFIED AS "REMOVE AND RESET" (R&R).
8. JOINTS BETWEEN NEW BITUMINOUS CONCRETE ROADWAY PAVEMENT AND SAWCUT EXISTING PAVEMENT SHALL BE SEALED WITH BITUMEN AND BACKSANDED AND SAWCUT BY MECHANICAL MEANS.
9. DRAINAGE STRUCTURES SHALL BE RETAINED UNLESS NOTED OTHERWISE.
10. CATCH BASIN AND MANHOLE FRAMES AND GRATES/COVERS SHALL CLEARLY ALIGN WITH THE OPENINGS IN THE PRECAST STRUCTURES AND THE GRADE OF THE ROADWAY.
11. EXISTING GRANITE CURBING SHALL BE REUSED WHEREVER POSSIBLE AND/OR AT THE DIRECTION OF THE ENGINEER
12. ALL CURB TIE DIMENSIONS ARE TO THE FACE OF THE CURB (GUTTER LINE) OR EDGE OF TRAVEL WAY.
13. CONSTRUCTION BASELINE TIES ARE SHOWN ON CURB TIE & GRADING PLANS.
14. PROPOSED SIDEWALKS AND PEDESTRIAN CURB RAMPS SHALL BE CONSTRUCTED TO THE NEAREST SCORE LINE OR EXPANSION JOINT IN THE EXISTING ADJACENT WALK SURFACE AS DIRECTED BY THE ENGINEER.
15. IN ALL LOCATIONS WHERE PROPOSED SIDEWALK TRANSITIONS DOWN TO MEET EXISTING GRADE, EXISTING SIDEWALK OR PAVED AREA, SLOPE SHALL NOT EXCEED 1:12.
16. CONTRACTOR SHALL VERIFY LOCATION OF ALL OBJECTS (SIGNS, TREES, GRATE, POLES ETC.) TO BE SET WITHIN SIDEWALK PRIOR TO FINAL PLACEMENT TO PROVIDE A MINIMUM CLEAR PATH OF 48" EXCLUDING THE CURB. CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY LOCATION WHICH CANNOT MEET THE CLEARANCE REQUIREMENTS.
17. SIGNS, POLES AND OTHER FEATURES LOCATED IN PROPOSED CEMENT CONCRETE SIDEWALK SHALL BE BOXED AND PROVIDED FLEXIBLE JOINT FILLER.
18. CONTRACTOR SHALL VERIFY EXISTING GRADES. IF ANY ADJUSTMENT IS REQUIRED DUE TO DIFFERENT EXISTING GRADES FOUND IN THE FIELD, THE CONTRACTOR SHALL NOTIFY AND SEEK THE APPROVAL OF THE ENGINEER PRIOR TO PERFORMING THE WORK.
19. IN AREAS OF NEW SIDEWALK, NEW EDGE OF PAVEMENT OR CURB WITHOUT SIDEWALK OR ANY WORK ADJACENT TO EXISTING GRASS AREAS, EVEN WHEN NO SLOPE-MATCHING OR GRADING IS NECESSARY AND THE EXISTING GRADE IS MET, LOAM BORROW AND SEED SHALL BE PROVIDED AS NECESSARY TO REPAIR AND COMPLETE ANY DAMAGE TO THE GRADE CAUSED BY THE CONSTRUCTION PROCESS.
20. ALL PROPOSED PAVEMENT MARKINGS ON ROADWAYS SHALL BE REFLECTORIZED WHITE AND YELLOW THERMOPLASTIC.
21. SAFETY CONTROLS FOR CONSTRUCTION OPERATIONS SHALL BE IN ACCORDANCE WITH MASSDOT REQUIREMENTS AND THE LATEST VERSION OF THE MUTCD.
22. TREES TO BE RETAINED WHICH RESTRICT SIGHT DISTANCE OR RESTRICT HORIZONTAL OR VERTICAL CLEARANCES SHALL BE TRIMMED AS REQUIRED BY THE ENGINEER.
23. NO TREE SHALL BE REMOVED PRIOR TO APPROVAL OF THE TOWN OF RANDOLPH.
24. WHEN WORKING NEXT TO EXISTING WALLS, BERMS, BUILDINGS AND OTHER STRUCTURES, CONTRACTOR SHALL EXERCISE EXTREME CAUTION NOT TO DISTURB THE EXISTING STRUCTURES. ANY DAMAGE TO THE EXISTING STRUCTURES SHALL BE REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE.
25. ALL PAVEMENT MARKINGS AND/OR SIGN NOTES ARE SHOWN ON THE SIGNS AND PAVEMENT MARKING PLANS.
26. THE EXPOSED EDGES OF ALL LONGITUDINAL AND TRANSVERSE SAW CUT JOINTS SHALL BE TREATED WITH HOT POURED RUBBERIZED ASPHALT JOINT SEALANT MEETING MASSDOT SPECIFICATIONS.
27. IN INSTANCES WHERE AN EXISTING MANHOLE, HANDHOLE OR OTHER "SURFACE" TYPE STRUCTURE CANNOT BE REMOVED OR RESET WITHIN THE PROPOSED OR EXISTING ACCESSIBLE SURFACE, THE STRUCTURE SHALL BE CAREFULLY ADJUSTED SUCH THAT THE TOPMOST SURFACES OR THE STRUCTURE COVER SHALL BE FLUSH WITH THE CURB RAMP SURFACE.

PEDESTRIAN CURB RAMP NOTES

1. ALL PEDESTRIAN CURB RAMPS SHALL CONFORM TO THE REQUIREMENTS OF THE ARCHITECTURAL ACCESS BOARD (A.A.B.) AND THE AMERICANS WITH DISABILITIES ACT (A.D.A.). AND THE LATEST MASSDOT STANDARDS.
2. THE LOCATION OF PROPOSED PEDESTRIAN CURB RAMPS ARE SHOWN ON GENERAL PLANS AND THE PEDESTRIAN CURB RAMP DETAILS. EXACT LOCATIONS MAY BE ADJUSTED, IF NECESSARY, BY THE ENGINEER IN THE FIELD.
3. ALL PROPOSED PEDESTRIAN CURB RAMPS SHALL HAVE DETECTABLE WARNING PANELS INSTALLED IN ACCORDANCE WITH MASSDOT CONSTRUCTION STANDARD DRAWINGS (701.2.1). THE COLOR OF THE PANEL SHALL BE YELLOW AND APPROVED BY THE ENGINEER.
4. IN INSTANCES WHERE AN EXISTING MANHOLE, HANDHOLE OR OTHER "SURFACE" TYPE STRUCTURE THAT CANNOT BE REMOVED OR RESET, IS WITHIN THE ACTUAL PEDESTRIAN CURB RAMP PATH, THE STRUCTURE SHALL BE CAREFULLY ADJUSTED SUCH THAT THE TOPMOST SURFACES OF THE STRUCTURE COVER SHALL BE FLUSH WITH THE RAMP SURFACE AND SHALL MATCH THE SLOPE OF THE NEW PEDESTRIAN CURB RAMP AS DIRECTED BY THE ENGINEER.
5. THE TRANSITION SLOPE OF ANY CURB RAMP, EXCEPT MAXIMUM LENGTH HIGH SIDE TRANSITIONS, SHALL NOT EXCEED 7.5%, +/-0.5% FOR TOLERANCE OF CONSTRUCTION. PER AAB 521 CMR, FINISHED SLOPE MAY NOT EXCEED 8.33%. PROPOSED PEDESTRIAN CURB RAMP SLOPES, ESPECIALLY HIGH SIDE TRANSITIONS, SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO POURING OF CONCRETE AND ADJUSTED, IF NECESSARY, AT THE DIRECTION OF THE ENGINEER.

SURVEY NOTES

1. THE TRAVERSE CONTROL FOR THIS SURVEY WAS ADJUSTED THROUGH A STAR*NET LEAST SQUARES ADJUSTMENT. THE AVERAGE STANDARD DEVIATION OF THE CONTROL TRAVERSE COORDINATES ARE 0.005' NORTHING AND 0.014' EASTING. THE AVERAGE COMBINED SCALE FACTOR OF ALL CONTROL POINTS IS 0.99995871.
2. THE HORIZONTAL DATUM FOR THIS SURVEY IS THE MASSACHUSETTS COORDINATE SYSTEM, NAD 1983, MAINLAND ZONE. THE VERTICAL DATUM FOR THIS SURVEY IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). SAID DATUMS WERE ESTABLISHED VIA CONTROL POINTS PROVIDED BY MASSDOT UTILIZING NAD83(2011) EPOCH 2010.00 AND GEOID 18 (SEE POINTS ON CURB TIE PLANS).
3. THE SURVEY PLAN IS THE RESULT OF AN ON-THE-GROUND INSTRUMENT SURVEY UTILIZING BOTH CONVENTIONAL AND SCAN EQUIPMENT THROUGH SEPTEMBER, 2023 COMPLETED BY DAWOOD
4. UNDERGROUND UTILITIES SHOWN HEREON ARE BASED ON FIELD LOCATIONS OF SURFACE VISIBLE STRUCTURES AND BY RECORD PLANS PROVIDED BY MASSDOT, TOWN OF RANDOLPH MUNICIPAL OFFICES, AND PRIVATE UTILITY COMPANIES. OTHER UNDERGROUND UTILITIES MAY EXIST. DAWOOD DOES NOT PROVIDE GUARANTEE THAT ALL UNDERGROUND UTILITIES ARE SHOWN OR IN THEIR CORRECT LOCATION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION, SIZE & ELEVATION OF ALL UTILITIES WITHIN THE AREA OF PROPOSED WORK AND TO CONTACT "DIG-SAFE" AT 811 AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION, DEMOLITION OR CONSTRUCTION.
5. PER THE TOWN OF RANDOLPH, THERE ARE NO STREET LAYOUT RECORD PLANS ON FILE. ALL TOWN WAYS ARE SHOWN HEREON FROM PLANS ON FILE AT THE REGISTRY OF DEEDS. THE STATUS OF TOWN WAYS ARE SHOWN HEREON FROM A STREET LIST PROVIDED BY THE TOWN OF RANDOLPH.
6. ALL LINEAR UNITS ARE SHOWN IN US SURVEY FEET.
7. CONTOUR INTERVAL: 1 FOOT
8. OWNERSHIP AND DEED INFORMATION WAS OBTAINED FROM THE TOWN OF RANDOLPH ASSESSORS OFFICE AND THE NORFOLK COUNTY REGISTRY OF DEEDS. ALL INFORMATION WAS CURRENT AS OF THE DATE OF THIS SURVEY.
9. PROPERTY LINES SHOWN HEREON ARE APPROXIMATE ONLY AND FRONTAGES ARE BASED UPON RECORD DEEDS, PLANS, AND OTHER BEST AVAILABLE SOURCES.
10. FOR TRAVERSE INFORMATION, SEE MASSACHUSETTS HIGHWAY FIELD BOOK NO. 28402.

COORDINATION NOTES

1. CONTRACTOR SHALL FINISH ALL ROADWAY AND SIDEWALK WORK BEFORE JUNE 30, 2026. NO EXCAVATION SHALL BE PERMITTED IN EXISTING ROADWAY AFTER JUNE 30, 2026.
2. MASSDOT (PROJECT 609399) IS PLANNING TO BE PAVING THIS PORTION OF ROUTE 28 THIS SUMMER. THE INTENT OF DEADLINE IS THAT ONCE THE NEW PAVEMENT IS DONE BY THE MASSDOT CONTRACT, NO WORK WILL BE ALLOWED IN THE ROADWAY.
3. CONTRACTOR SHOULD COORDINATE WITH THE TOWN AND MASSDOT CONTRACTOR TO MAKE SURE ALL ROADWAY WORK NDER THIS CONTRACT IS COMPLETED BEFORE THE PAVING PROJECT IS STARTED BY MASSDOT IN THIS AREA.

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: CM
DESIGNED BY: KL
CHECKED BY: DJ

REGISTERED PROFESSIONAL

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

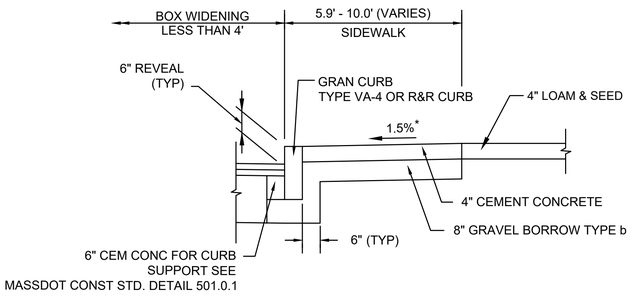
SCALE: NONE

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE: **SOUTH MAIN STREET & CENTRE STREET INTERSECTION IMPROVEMENTS**
GENERAL NOTES
RANDOLPH, MA

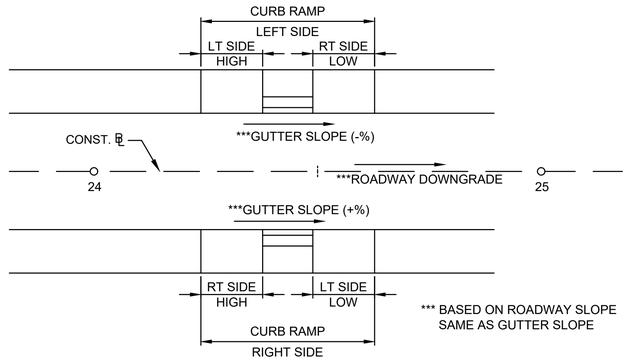
BETA JOB NO. 11615
ISSUE DATE 03/09/2026
SHEET NO. 3 OF 13

3/9/2026 10:57 AM BETA GROUP INC. TEMPLATE (BETA_STANDARD_TEMPLATE - 1.0.2024) CIVIL 3D (CIVIL 3D 2024) PLOTSTYLE (BETA STB BW.STB) USER(KYUEN)
O:\11600\S\11615 - RANDOLPH, MA - MAIN ST & CENTER ST\DRAWING FILES\PLANSET\11615 NOTES.DWG



DETAIL FOR SIDEWALK WITH GRANITE CURB

NOT TO SCALE



GUTTER SLOPE DIAGRAM

NOT TO SCALE

PAVEMENT NOTES

CEMENT CONCRETE SIDEWALK

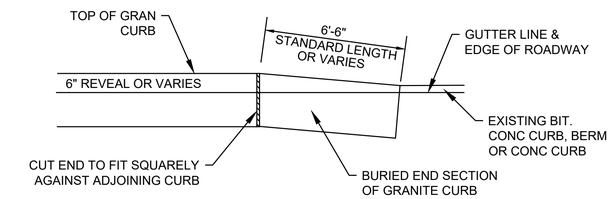
SURFACE COURSE: 4" CEMENT CONCRETE
(AIR ENTRAINED 4000 PSI, 3/4", 610)

SUB BASE: 8" GRAVEL BORROW TYPE b OR COMBINATION OF EXISTING SUITABLE SUB BASE AS APPROVED BY THE ENGINEER

CEMENT CONCRETE PEDESTRIAN CURB RAMPS

SURFACE COURSE: 6" CEMENT CONCRETE
(AIR ENTRAINED 4000 PSI, 3/4", 610)

SUB BASE: 8" GRAVEL BORROW TYPE b OR COMBINATION OF EXISTING SUITABLE SUB BASE AS APPROVED BY THE ENGINEER



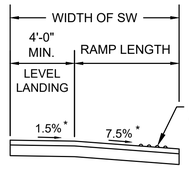
DETAIL FOR TRANSITION CURB
TRANSITION CURB - PROP CURB TO EXISTING CURB

NOT TO SCALE

TABLE I	
ROADWAY PROFILE GRADE	* HIGH SIDE TRANSITION LENGTH
%	ENGLISH UNITS
=0%	6'-6"
>0% TO 1%	7'-8"
>1% TO 2%	9'-0"
>2% TO 3%	11'-0"
>3% TO 4%	14'-0"
>4% TO 5%	15'-0" MAX.

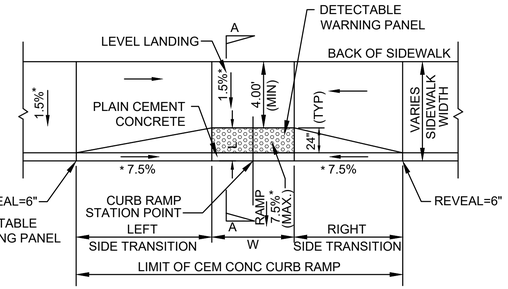
CURB TRANSITION LENGTH
FOR CURB RAMPS

MASSDOT CONST. STD. DWG. NO. 701.2.8
*BASED ON A DESIGN SLOPE
OF 7.5% AND A REVEAL OF 6".



SECTION A-A

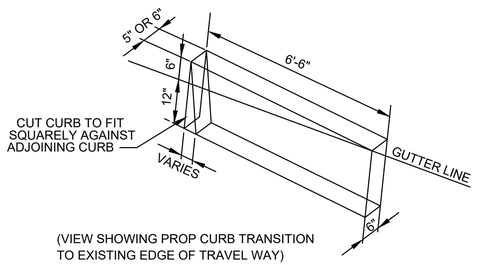
NOT TO SCALE



CURB RAMP DETAIL TYPE "A"

NOT TO SCALE

CURB RAMP TYPE A DATA									
PCR NO.	LOCATION	RAMP REFERENCE POINT		GUTTER PROFILE SLOPE	LENGTH OF PRIMARY RAMP L	WIDTH OF RAMP OPENING W	DEPTH OF LEVEL LANDING (MIN. 4.0')	TRANSITION LENGTH		SIDEWALK WIDTH
		STATION	OFFSET					LEFT	RIGHT	
1	SOUTH MAIN STREET	3+64.8	19.5' LT	+1.4%	3.4'	5.0'	4.0'	6.5'	9.0'	7.4'
2	SOUTH MAIN STREET	3+64.8	22.8' RT	-1.1%	2.5'	5.0'	4.0'	5.9' (3"R)	6.5'	VARIES (5.9' TO 8.6')
3	SOUTH MAIN STREET	3+88.6	29.9' RT	-0.7%	4.5'	5.5'	5.7'	-	5.9' (3"R)	9.9'
4	SOUTH MAIN STREET	4+60.7	29.6' RT	+0.7%	3.8'	5.0'	5.0'	6.5'	7.7'	SOUTH MAIN ST. 7.6' CENTRE ST. 9.1'
5	SOUTH MAIN STREET	4+61.0	19.5' LT	+0.7%	3.3'	5.0'	4.0'	6.5'	7.7'	7.5'



(VIEW SHOWING PROP CURB TRANSITION
TO EXISTING EDGE OF TRAVEL WAY)

DETAIL FOR GRANITE TRANSITION CURB

NOT TO SCALE

PEDESTRIAN CURB RAMP NOTES

1. IN RARE INSTANCES WHERE AN EXISTING MANHOLE, HANDHOLE OR OTHER EXISTING "SURFACE" TYPE STRUCTURE WHICH CANNOT BE REMOVED AND RESET, IS WITHIN THE ACTUAL PEDESTRIAN CURB RAMP PATH, THE STRUCTURE SHALL BE CAREFULLY ADJUSTED SUCH THE THE TOPMOST SURFACES OF THE STRUCTURE COVER SHALL BE FLUSH WITH THE NEW RAMP SURFACE AND SHALL MATCH THE SLOPE OF THE NEW PEDESTRIAN CURB RAMP EXACTLY, AS DIRECTED BY THE ENGINEER.

2. ALL PEDESTRIAN CURB RAMPS WUTHIN THE PROJECT LIMITS SHALL HAVE DETECTABLE WARNING PANELS INSTALLED IN ACCORDANCE WITH MASSDOT STANDARD DRAWING 701.2.1.

* TOLERANCE FOR CONSTRUCTION ±0.5%

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: CM
DESIGNED BY: KL
CHECKED BY: DJ

REGISTERED PROFESSIONAL

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

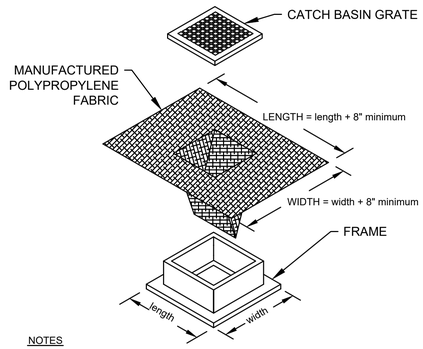
SCALE: NONE

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE: **SOUTH MAIN STREET & CENTRE STREET INTERSECTION IMPROVEMENTS**
CONSTRUCTION DETAILS & PAVEMENT NOTES
RANDOLPH, MA

BETA JOB NO. 11615
ISSUE DATE 03/09/2026
SHEET NO. 4 OF 13

BETA GROUP INC - TEMPLATE (BETA_STANDARD_TEMPLATE - 1.0.2024) CIVIL 3D (CIVIL 3D 2024) - PLOTSTYLE (BETA_STB.BW.STB) USER(CMCCORMICK)
3/9/2026 10:57 AM O:\11615\DIS\11615 - RANDOLPH, MA - MAIN ST & CENTER ST\DRAWING FILES\PLANSET\11615 CONSTRUCTION DETAILS & PAVEMENT NOTES.DWG



NOTES

1. LENGTH AND WIDTH OF POLYPROPYLENE FABRIC MUST EXCEED EXISTING CATCH BASIN FRAME DIMENSIONS BY A MINIMUM OF 8".
2. REMOVE CATCH BASIN GRATE AND INSTALL POLYPROPYLENE FABRIC OVER CATCH BASIN FRAME. REPLACE CATCH BASIN GRATE TO SECURE POLYPROPYLENE FABRIC IN PLACE.

CATCH BASIN EROSION CONTROL PROTECTION (TYP)

NOT TO SCALE

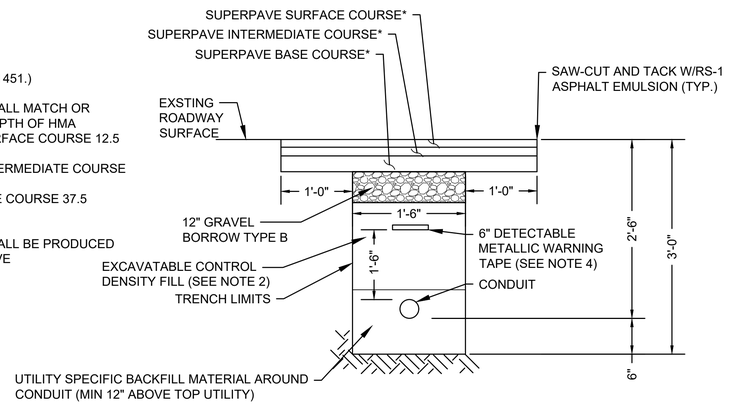
PAVEMENT NOTES*:

HMA FOR PATCHING (ITEM 451.)

PAVEMENT MIX DEPTH SHALL MATCH OR EXCEED THE EXISTING DEPTH OF HMA

- 1.75" SUPERPAVE SURFACE COURSE 12.5 (SSC-12.5)
- 2.25" SUPERPAVE INTERMEDIATE COURSE 19.0 (SIC-19.0)
- 3.5" SUPERPAVE BASE COURSE 37.5 (SBC-37.5)

ALL HOT MIX ASPHALY SHALL BE PRODUCED WITH A WARM MIX ADDITIVE

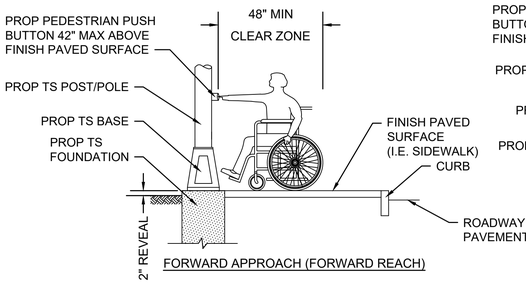


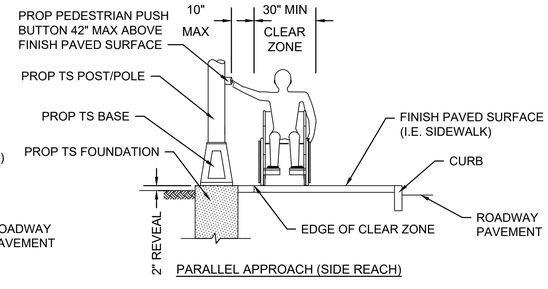
CONDUIT CROSSING ROADWAY

NOT TO SCALE

CONDUIT CROSSING ROADWAY NOTES:

1. THE CDF SHALL BE PLACED TO THE ELEVATION OF THE ADJOINING SUBGRADE, THEN GRAVEL SHALL BE PLACED AND COMPACTED TO WITHIN 3 ½ INCHES OF THE FINISHED GRADE. THE LAST 3 ½ INCHES SHALL BE HOT MIX ASPHALT PLACE IN TWO LAYERS: 1 ½" SURFACE COURSE OVER 2" INTERMEDIATE COURSE.
2. MATERIAL WHICH MEETS THE SPECIFICATION FOR GRAVEL BORROW TYPE C (M1.03.0 TYPE C), PLACED AND COMPACTED IN LAYERS NO GREATER THAN 6", MAY BE USED IN PLACE OF THE CDF WITH APPROVAL FROM THE DISTRICT HIGHWAY DIRECTOR.
3. THE EXPOSED EDGES OF ALL LONGITUDINAL AND TRANSVERSE SAW CUT JOINTS SHALL BE TREATED WITH HOT POURED RUBBERIZED ASPHALT JOINT SEALANT MEETING MASSDOT SPECIFICATIONS.
4. YELLOW METAL FOIL MARKING TAPE SHALL BE PLACE 18" OVER THE CONDUIT (METAL MARKING TAPE/WIRE SHOULD BE USED FOR NON-METALLIC CONDUIT.)
5. FOR ROADS WITH AN EXISTING CEMENT CONCRETE BASE, A REINFORCE, HIGH EARLY STRENGTH AIR ENTRAINED, CLASS "F" CEMENT CONCRETE SLAB SHALL BE CASE IN PLACE TO MEET THE EXISTING PAVEMENT. SPECIFIC JOINT DETAILS WITH THE EXISTING PLACEMENT SHALL BE APPROVED DEPENDENT ON THE EXISTING SITE CONDITIONS.
6. ALL TRENCH DIMENSION SHALL BE IN ACCORDANCE WITH SUB-SECTION 140.80 OF THE MASSDOT STANDARDS AND SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.
7. SIC 19.0 MAY BE SUBSTITUTED FOR SBC-37.5



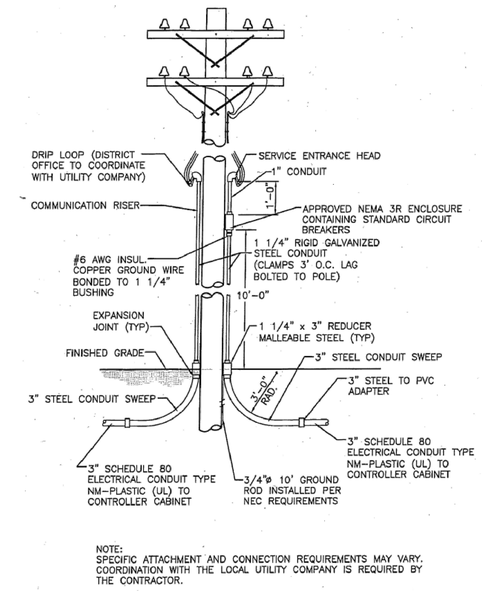


PEDESTRIAN PUSH BUTTON CLEAR ZONE

NOT TO SCALE

NOTE:

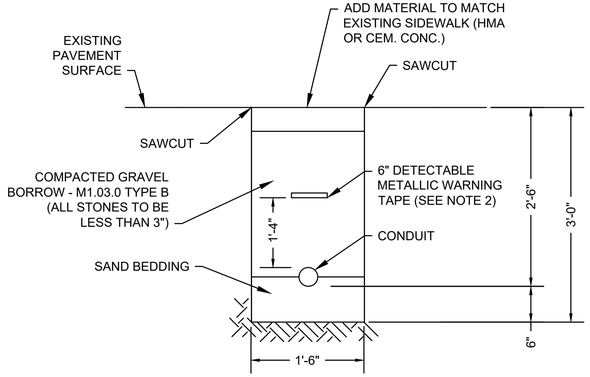
1. A CLEAR GROUND SPACE SHALL CONSIST OF A STABLE AND FIRM AREA, COMPLYING WITH 521 CMR 6.5 (FORWARD REACH) OR 521 CMR 6.6 (SIDE REACH) AND SHALL BE PROVIDED AT EACH OF THE PEDESTRIAN PUSH BUTTONS.
   a.) WHERE A FORWARD APPROACH IS PROVIDED, PEDESTRIAN PUSH BUTTONS SHALL ABUT AND BE CENTERED ON THE CLEAR GROUND SPACE.
   b.) WHERE A PARALLEL APPROACH IS PROVIDED, PEDESTRIAN PUSH BUTTONS SHALL BE WITHIN TEN INCHES (10") HORIZONTALLY OF AND CENTERED ON THE CLEAR GROUND SPACE.


DRIP LOOP (DISTRICT OFFICE TO COORDINATE WITH UTILITY COMPANY)
SERVICE ENTRANCE HEAD
1" CONDUIT
1'-0"
COMMUNICATION RISER
APPROVED NEMA 3R ENCLOSURE CONTAINING STANDARD CIRCUIT BREAKERS
1 1/4" RIGID GALVANIZED STEEL CONDUIT (CLAMPS 3' O.C. LAG BOLTED TO POLE)
#6 AWG INSUL. COPPER GROUND WIRE BONDED TO 1 1/4" BUSHING
10'-0"
EXPANSION JOINT (TYP)
1 1/4" x 3" REDUCER MALLEABLE STEEL (TYP)
FINISHED GRADE
3" STEEL CONDUIT SWEEP
3'-0" R60
3" STEEL TO PVC ADAPTER
3" STEEL CONDUIT SWEEP
3" SCHEDULE 80 ELECTRICAL CONDUIT TYPE NM-PLASTIC (UL) TO CONTROLLER CABINET
3/4"ø 10' GROUND ROD INSTALLED PER NEC REQUIREMENTS
3" SCHEDULE 80 ELECTRICAL CONDUIT TYPE NM-PLASTIC (UL) TO CONTROLLER CABINET

NOTE:
SPECIFIC ATTACHMENT AND CONNECTION REQUIREMENTS MAY VARY. COORDINATION WITH THE LOCAL UTILITY COMPANY IS REQUIRED BY THE CONTRACTOR.

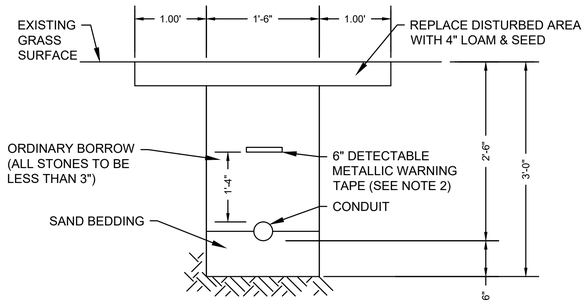
TRAFFIC SIGNAL SERVICE CONNECTION - OVERHEAD

NOT TO SCALE



CONDUIT UNDER SIDEWALK AREAS

NOT TO SCALE



CONDUIT UNDER GRASS AREAS

NOT TO SCALE

CONDUIT UNDER SIDEWALK/UNDER GRASS AREA NOTES:

1. SCHEDULE 80 ELECTRICAL CONDUIT TYPE NM-PLASTIC (UL), WITH PULL ROPE UNLESS OTHERWISE APPROVED BY THE ENGINEER.
2. WARNING TAPE SHALL BE PER CURRENT APWA STANDARDS.

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: CM
DESIGNED BY: KL
CHECKED BY: DJ
REGISTERED PROFESSIONAL
PREPARED BY: BETA www.BETA-Inc.com
SUBCONSULTANT
SCALE: NONE
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE: **SOUTH MAIN STREET & CENTRE STREET INTERSECTION IMPROVEMENTS**
CONSTRUCTION DETAILS
RANDOLPH, MA

BETA JOB NO. 11615
ISSUE DATE 03/09/2026
SHEET NO. 5 OF 13

BETA GROUP INC. TEMPLATE (BETA_STANDARD_TEMPLATE - 1.0.2024) CIVIL 3D (CIVIL 3D 2024) PLOTSTYLE (BETA.STB BW.STB) USER(CMCCORMICK) O:\11600\11615 - RANDOLPH, MA - MAIN ST & CENTER ST\DRAWING FILES\PLANSET\11615 CONSTRUCTION DETAILS & PAVEMENT NOTES.DWG
3/9/2026 10:57 AM (CMCCORMICK)

NOTE: CONTRACTOR SHALL FINISH ALL ROADWAY AND SIDEWALK WORK BEFORE JUNE 30, 2026. NO EXCAVATION SHALL BE PERMITTED IN EXISTING ROADWAY AFTER JUNE 30, 2026

MASSDOT (PROJECT #609399) IS PLANNING TO BE PAVING THIS PORTION OF ROUTE 28 THIS SUMMER. THE INTENT OF DEADLINE IS THAT ONCE THE NEW PAVEMENT IS DONE BY MASSDOT CONTRACT, NO WORK WILL BE ALLOWED IN THE ROADWAY.

CONTRACTOR SHALL COORDINATE WITH TOWN AND MASSDOT CONTRACTOR TO MAKE SURE ALL ROADWAY WORK UNDER THIS CONTRACT IS COMPLETED BEFORE PAVING PROJECT STARTS BY MASSDOT IN THIS AREA

NAD 83

N

SOUTH MAIN (RT.28) STREET

CONST BASELINE

SURVEY BASELINE

LIMIT OF WORK
MATCH IMPROVEMENTS BY OTHERS
(MASSDOT PROJECT #609399)
STA 3+11

LIMIT OF WORK
MATCH IMPROVEMENTS BY OTHERS
(MASSDOT PROJECT #609399)
STA 5+61

LIMIT OF CC SW
MATCH EXIST

PROP GRAN CURB
TYPE VA-4 (TYP)

PROP SAWCUT
LINE (TYP)

PROP PERM PATCH
(ITEM 451)

3" REVEAL

PROP
PCR-2

PROP
PCR-3

PROP CC WALK

RET
BOUND

RET HYD

RET CB (LP)

RET DMH

RET CURB & SW

RET EX UP

R&S CURB

PROP LOAM & SEED

END PROP CURB

RET CURB

RET CURB
REPLACE CC SW

TEST PIT FOR GAS
MAIN
MA LOCATION SHALL
BE DEPENDENT
ON GAS MAIN
LOCATION

PROP LOAM & SEED

ADJ CB
PROP CI

PROP PCR-1

RET FND

ADJ DMH

MA-35 FT
RET LIGHT POLE

PROP PCR-5

ADJ (BO)

MILL & OVERLAY BY OTHERS
UNDER MASSDOT PROJ #609399

PROP GRAN CURB
TYPE VA-4

PROP 5'x8' MIN
(10'X8' PREFERRED)
BUS LANDING

PROP LOAM & SEED

PROTECT EX WATERLINE
DURING CONSTRUCTION

ADJ CB (LP)
PROP CI

PROP PCR-4

LIMIT OF CC SW
MATCH EXIST

RET CURB & SW

CONST BASELINE

LIMIT OF WORK
STA 11+11±

CENTRE STREET

SURVEY BASELINE

LIMIT OF CC SW
MATCH EXIST

PI +11.08

PI +08.69

PC +25.59

PT +87.29

2+00

10+00

7+00

N/F
BADRI CORPORATION
BK/PG 35570/110
PB/PL 663/8
571 SOUTH MAIN STREET
MAP/LOT 74/A-015

N/F
571 SOUTH MAIN, LLC.
BK/PG 33808/299
585 SOUTH MAIN STREET
MAP/LOT 74/A-007.7

N/F
535 SOUTH MAIN, LLC.
BK/PG 25425/33
PB/PL 406/377
535 SOUTH MAIN STREET
MAP/LOT 74/A-003

30' ACCESS
EASEMENT
PB/PL 663/8

N/F
WALTER A. ABREGO AYALA
BK/PG 40085/402
PB/PL D3780/330
566 SOUTH MAIN STREET
MAP/LOT 73/B-004.A

N/F
NHI T. TRAN
BK/PG 35227/17
PB/PL 61/2913
PB/PL D6723/366
588 SOUTH MAIN STREET
MAP/LOT 73/B-003.815-1

N/F
WILLIAM M. GLOVER &
KEISHA L. SPARKS-GLOVER
BK/PG 34788/408
PB/PL 61/2913
540 SOUTH MAIN STREET
MAP/LOT 73/B-001.836

N/F
WILLIAM M. GLOVER &
KEISHA L. SPARKS-GLOVER
BK/PG 34788/408
PB/PL 61/2913
540 SOUTH MAIN STREET
MAP/LOT 73/B-002.832

N/F
530 SOUTH MAIN REALTY CORP.
BK/PG 26946/162
PB/PL 537/68
PB/PL 406/378
536 SOUTH MAIN STREET
MAP/LOT 70/B-003.1&2

N/F
530 SOUTH MAIN REALTY CORP.
BK/PG 26946/162
PB/PL 537/68
PB/PL 406/378
536 SOUTH MAIN STREET
MAP/LOT 70/B-003.1&2

FOR PROFILE SEE SHEET 7

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: CM
DESIGNED BY: KL
CHECKED BY: DJ

REGISTERED PROFESSIONAL

PREPARED BY
BETA
www.BETA-Inc.com

SUBCONSULTANT

SCALE
20 0 20 40
SCALE IN FEET: 1"=20'
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

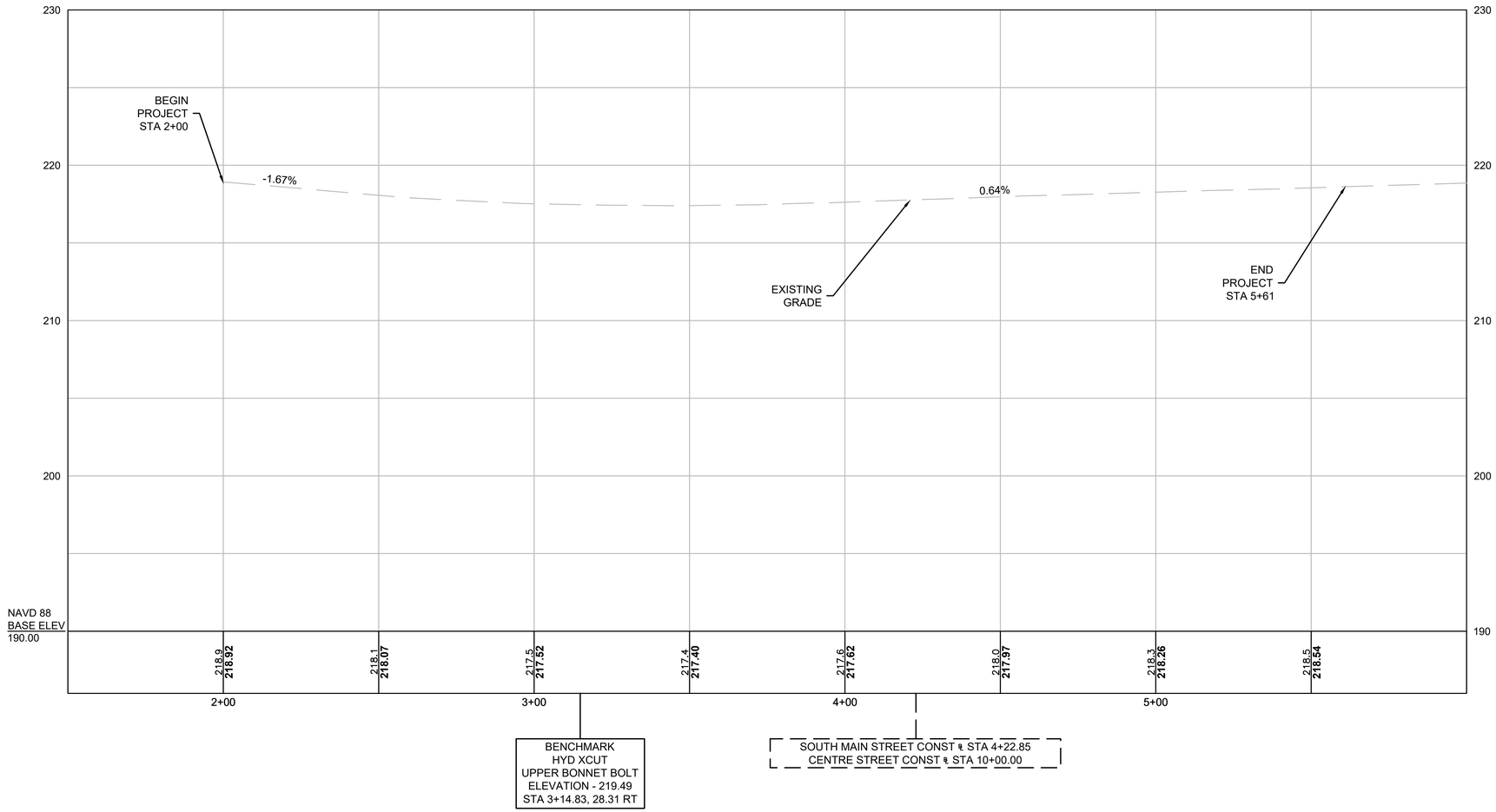
TITLE
SOUTH MAIN STREET & CENTRE STREET INTERSECTION IMPROVEMENTS
GENERAL PLAN
RANDOLPH, MA

BETA JOB NO. 11615
ISSUE DATE 03/09/2026
SHEET NO. 6 OF 13

3/9/2026 10:57 AM O:\11600\SI\11615 - RANDOLPH, MA - MAIN ST & CENTER ST\DRAWING FILES\PLANSET\11615 GENERAL PLAN.DWG ########## TEMPLATE (##########.########## CIVIL 3D (####)) PLOTSTYLE (BETA STB BW.STB) USER(KYUEN)

3/9/2026 10:58 AM O:\11600\511615 - RANDOLPH, MA - MAIN ST & CENTER ST\DRAWING FILES\PLANSET\11615 PROFILE.DWG ##########. TEMPLATE (##########################. - ##########).CIVIL 3D (#####) PLOTSTYLE (BETA STB.BW.STB) USER(CFERREIRA)

SOUTH MAIN STREET



FOR GENERAL PLANS
SEE SHEET 6

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: CM
DESIGNED BY: KL
CHECKED BY: DJ

REGISTERED PROFESSIONAL

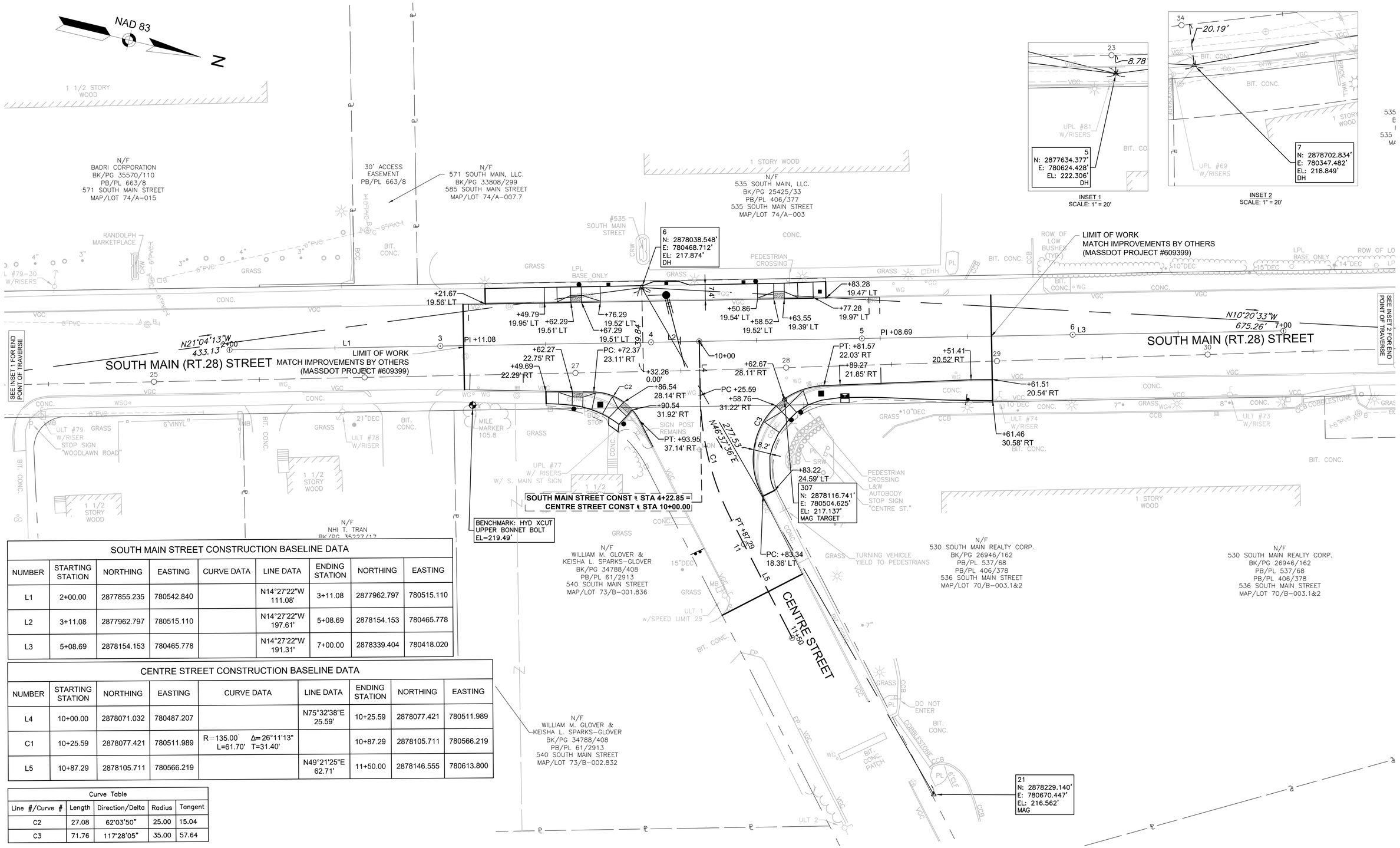
PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

SCALE
HOR. SCALE IN FEET: 1"=20'
20 0 20 40
VER. SCALE IN FEET: 1"=4'
4 0 4 8
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE
SOUTH MAIN STREET & CENTRE STREET INTERSECTION IMPROVEMENTS
PROFILE - SOUTH MAIN STREET
RANDOLPH, MA

BETA JOB NO. 11615
ISSUE DATE 03/09/2026
SHEET NO. 7 OF 13



SOUTH MAIN STREET CONSTRUCTION BASELINE DATA

NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L1	2+00.00	2877855.235	780542.840		N14°27'22"W 111.08'	3+11.08	2877962.797	780515.110
L2	3+11.08	2877962.797	780515.110		N14°27'22"W 197.61'	5+08.69	2878154.153	780465.778
L3	5+08.69	2878154.153	780465.778		N14°27'22"W 191.31'	7+00.00	2878339.404	780418.020

CENTRE STREET CONSTRUCTION BASELINE DATA

NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L4	10+00.00	2878071.032	780487.207		N75°32'38"E 25.59'	10+25.59	2878077.421	780511.989
C1	10+25.59	2878077.421	780511.989	R=135.00' Δ=26°11'13" L=61.70' T=31.40'		10+87.29	2878105.711	780566.219
L5	10+87.29	2878105.711	780566.219		N49°21'25"E 62.71'	11+50.00	2878146.555	780613.800

Curve Table				
Line #/Curve #	Length	Direction/Delta	Radius	Tangent
C2	27.08	62°03'50"	25.00	15.04
C3	71.76	117°28'05"	35.00	57.64

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: CM
DESIGNED BY: KL
CHECKED BY: DJ

REGISTERED PROFESSIONAL

PREPARED BY
BETA
www.BETA-Inc.com

SUBCONSULTANT

SCALE
20 0 20 40
SCALE IN FEET: 1"=20'
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

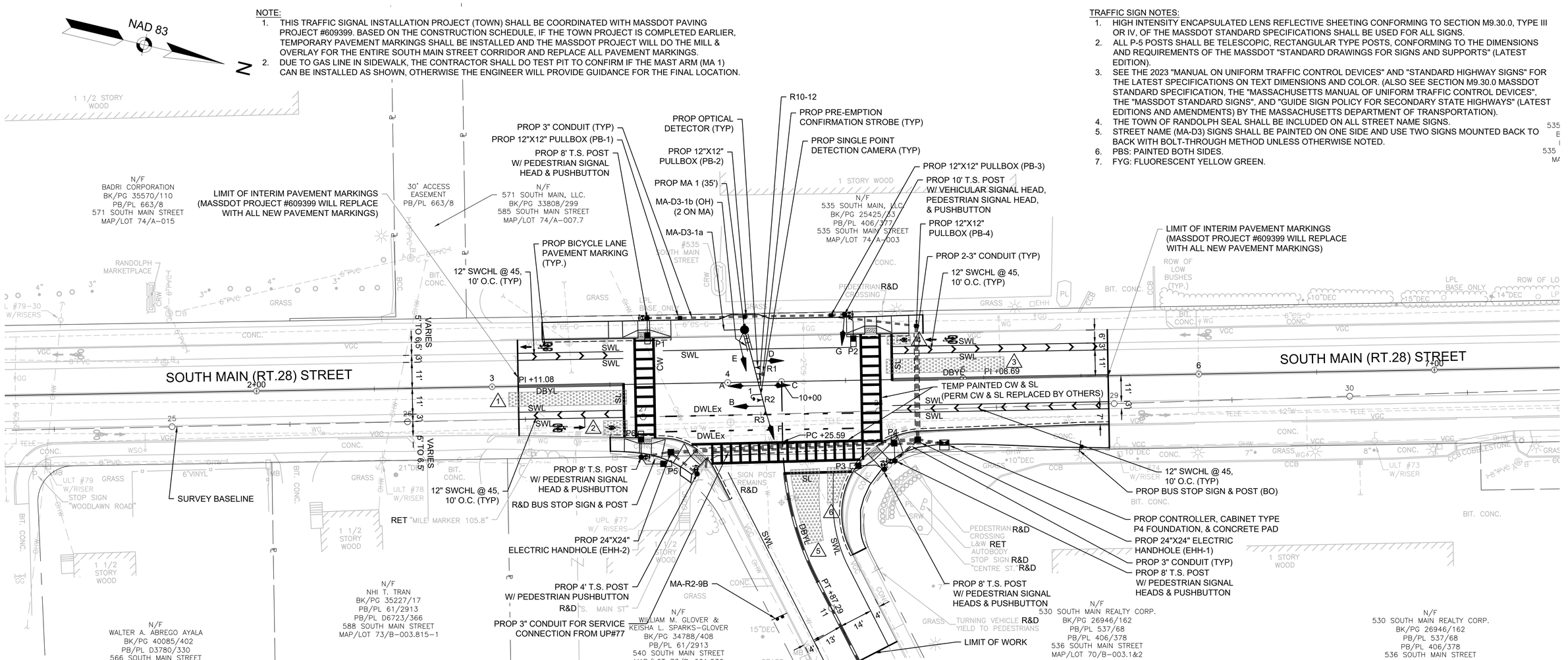
TITLE
SOUTH MAIN STREET & CENTRE STREET INTERSECTION IMPROVEMENTS
CURB AND TIE PLAN
RANDOLPH, MA

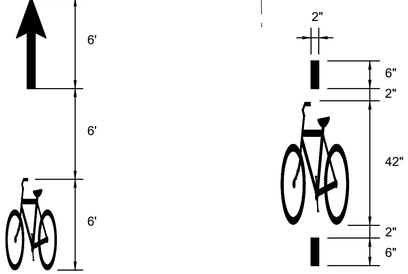
BETA JOB NO. 11615
ISSUE DATE 03/09/2026
SHEET NO. 8 OF 13

3/9/2026 10:58 AM O:\11600\11615 - RANDOLPH, MA - MAIN ST & CENTER ST\DRAWING FILES\PLANSET\11615 CURB AND TIE PLAN.DWG PLOTSTYLE (BETA_STB BW.STB) USER(KYUEN) CIVIL 3D (#####) TEMPLATE (###.dwt)

NOTE:
1. THIS TRAFFIC SIGNAL INSTALLATION PROJECT (TOWN) SHALL BE COORDINATED WITH MASSDOT PAVING PROJECT #609399. BASED ON THE CONSTRUCTION SCHEDULE, IF THE TOWN PROJECT IS COMPLETED EARLIER, TEMPORARY PAVEMENT MARKINGS SHALL BE INSTALLED AND THE MASSDOT PROJECT WILL DO THE MILL & OVERLAY FOR THE ENTIRE SOUTH MAIN STREET CORRIDOR AND REPLACE ALL PAVEMENT MARKINGS.
2. DUE TO GAS LINE IN SIDEWALK, THE CONTRACTOR SHALL DO TEST PIT TO CONFIRM IF THE MAST ARM (MA 1) CAN BE INSTALLED AS SHOWN, OTHERWISE THE ENGINEER WILL PROVIDE GUIDANCE FOR THE FINAL LOCATION.

TRAFFIC SIGN NOTES:
1. HIGH INTENSITY ENCAPSULATED LENS REFLECTIVE SHEETING CONFORMING TO SECTION M9.30.0, TYPE III OR IV, OF THE MASSDOT STANDARD SPECIFICATIONS SHALL BE USED FOR ALL SIGNS.
2. ALL P-5 POSTS SHALL BE TELESCOPIC, RECTANGULAR TYPE POSTS, CONFORMING TO THE DIMENSIONS AND REQUIREMENTS OF THE MASSDOT "STANDARD DRAWINGS FOR SIGNS AND SUPPORTS" (LATEST EDITION).
3. SEE THE 2023 "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND "STANDARD HIGHWAY SIGNS" FOR THE LATEST SPECIFICATIONS ON TEXT DIMENSIONS AND COLOR. (ALSO SEE SECTION M9.30.0 MASSDOT STANDARD SPECIFICATION, THE "MASSACHUSETTS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES", THE "MASSDOT STANDARD SIGNS", AND "GUIDE SIGN POLICY FOR SECONDARY STATE HIGHWAYS" (LATEST EDITIONS AND AMENDMENTS) BY THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION).
4. THE TOWN OF RANDOLPH SEAL SHALL BE INCLUDED ON ALL STREET NAME SIGNS.
5. STREET NAME (MA-D3) SIGNS SHALL BE PAINTED ON ONE SIDE AND USE TWO SIGNS MOUNTED BACK TO BACK WITH BOLT-THROUGH METHOD UNLESS OTHERWISE NOTED.
6. PBS: PAINTED BOTH SIDES.
7. FYG: FLUORESCENT YELLOW GREEN.


NAD 83
N
SOUTH MAIN (RT.28) STREET
SURVEY BASELINE
PROP 3" CONDUIT (TYP)
PROP 12"X12" PULLBOX (PB-1)
PROP 8' T.S. POST W/ PEDESTRIAN SIGNAL HEAD & PUSHBUTTON
PROP OPTICAL DETECTOR (TYP)
PROP 12"X12" PULLBOX (PB-2)
PROP MA 1 (35')
MA-D3-1b (OH) (2 ON MA)
MA-D3-1a
R10-12
PROP PRE-EMPTION CONFIRMATION STROBE (TYP)
PROP SINGLE POINT DETECTION CAMERA (TYP)
PROP 12"X12" PULLBOX (PB-3)
PROP 10' T.S. POST W/ VEHICULAR SIGNAL HEAD, PEDESTRIAN SIGNAL HEAD, & PUSHBUTTON
PROP 12"X12" PULLBOX (PB-4)
PROP 2-3" CONDUIT (TYP)
12" SWCHL @ 45, 10' O.C. (TYP)
PROP BICYCLE LANE PAVEMENT MARKING (TYP.)
LIMIT OF INTERIM PAVEMENT MARKINGS (MASSDOT PROJECT #609399 WILL REPLACE WITH ALL NEW PAVEMENT MARKINGS)
30' ACCESS EASEMENT PB/PL 663/8
N/F BADRI CORPORATION BK/PG 35570/110 PB/PL 663/8 571 SOUTH MAIN STREET MAP/LOT 74/A-015
N/F 571 SOUTH MAIN, LLC. BK/PG 33808/299 585 SOUTH MAIN STREET MAP/LOT 74/A-007.7
N/F 535 SOUTH MAIN, LLC BK/PG 25425/33 PB/PL 406/377 535 SOUTH MAIN STREET MAP/LOT 74/A-003
RANDOLPH MARKETPLACE
#535 SOUTH MAIN STREET
PEDESTRIAN CROSSING R&D
1 STORY WOOD
1 1/2 STORY WOOD
ULT #79 W/RISER STOP SIGN "WOODLAWN ROAD"
ULT #78 W/RISER
ULT #77 W/ RISERS
ULT #74 W/RISER
ULT #73 W/RISER
RET "MILE MARKER 105.8"
PROP 24"X24" ELECTRIC HANDHOLE (EHH-2)
PROP 4' T.S. POST W/ PEDESTRIAN PUSHBUTTON
PROP 3" CONDUIT FOR SERVICE CONNECTION FROM UP#77
R&D BUS STOP SIGN & POST
PROP 8' T.S. POST W/ PEDESTRIAN SIGNAL HEAD & PUSHBUTTON
SIGN POST REMAINS
R&D "S. MAIN ST"
R&D "SPEED LIMIT 25 TOWN WIDE UNLESS OTHERWISE POSTED"
N/F NHI T. TRAN BK/PG 35227/17 PB/PL 61/2913 PB/PL D6723/366 588 SOUTH MAIN STREET MAP/LOT 73/B-003.815-1
N/F WILLIAM M. GLOVER & KEISHA L. SPARKS-GLOVER BK/PG 34788/408 PB/PL 61/2913 540 SOUTH MAIN STREET MAP/LOT 73/B-001.836
N/F WALTER A. ABREGO AYALA BK/PG 40085/402 PB/PL D3780/330 566 SOUTH MAIN STREET MAP/LOT 73/B-004.A
N/F 530 SOUTH MAIN REALTY CORP. BK/PG 26946/162 PB/PL 537/68 PB/PL 406/378 536 SOUTH MAIN STREET MAP/LOT 70/B-003.1&2
N/F 530 SOUTH MAIN REALTY CORP. BK/PG 26946/162 PB/PL 537/68 PB/PL 406/378 536 SOUTH MAIN STREET
PROP CONTROLLER, CABINET TYPE P4 FOUNDATION, & CONCRETE PAD
PROP 24"X24" ELECTRIC HANDHOLE (EHH-1)
PROP 3" CONDUIT (TYP)
PROP 8' T.S. POST W/ PEDESTRIAN SIGNAL HEADS & PUSHBUTTON
PROP BUS STOP SIGN & POST (BO)
TEMP PAINTED CW & SL (PERM CW & SL REPLACED BY OTHERS)
LIMIT OF WORK
CENTRE STREET
P1
P2
P3
P4
P5
P6
PI +11.08
PI +08.69
PC +25.59
10+00
2+00
7+00
R1
R2
R3
R&D "CENTRE ST."
R&D TURNING VEHICLE YIELD TO PEDESTRIANS
R&D AUTOBODY
RET

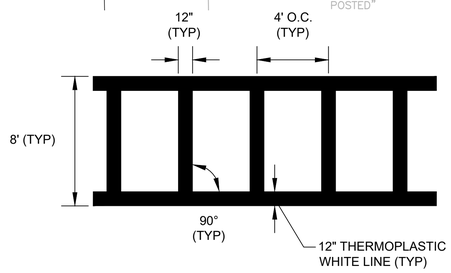


BICYCLE LANE MARKING DETAIL

NOT TO SCALE

TYPICAL BICYCLE DETECTOR PAVEMENT MARKING DETAIL

NOT TO SCALE



CROSSWALK STRIPING DETAIL

NOT TO SCALE

TRAFFIC SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE OF SIGN WIDTH	SIZE OF SIGN HEIGHT	TEXT	DIMENSIONS (in) LETTER HEIGHT	DIMENSIONS (in) VERTICAL SPACING	DIMENSIONS (in) ARROW	NUMBER OF SIGNS REQUIRED	COLOR BACKGROUND	COLOR LEGEND	COLOR BORDER	POST SIZE AND NUMBER REQUIRED	UNIT AREA IN SQUARE FEET	AREA IN SQUARE FEET
MA-D3-1a	78 in	18 in	○ S. Main St	8D,5.33D	5.0 5.0	8" TOWN SEAL	1	BLUE	WHITE	WHITE	MOUNT ON MA 1 (35')	9.75	9.75
MA-D3-1b (OH)	72 in	18 in	○ Centre St	8D,5.33D	5.0 5.0	8" TOWN SEAL	2	BLUE	WHITE	WHITE	MOUNT ON MA 1 (35')	9	18
MA-R2-9B	30 in	72 in	TRUCK LY SETTED SPEED LIMIT 25 TOWNWIDE UNLESS OTHERWISE POSTED	SEE MASSDOT STANDARDS			1	YELLOW WHITE	BLACK	BLACK	P-5 2	15	15
R10-12	24 in	30 in	LEFT TURN YIELD ON GREEN	SEE 2023 MUTCD STANDARDS			1	WHITE	BLACK GREEN	BLACK	MOUNT ON MA 1 (35')	5	5

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: CM
DESIGNED BY: KL
CHECKED BY: DJ

REGISTERED PROFESSIONAL

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

SCALE: 20 0 20 40 SCALE IN FEET: 1"=20'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE: **SOUTH MAIN STREET & CENTRE STREET INTERSECTION IMPROVEMENTS**
SIGN, PAVEMENT MARKING, TRAFFIC SIGN SUMMARY & SIGNAL PLAN
RANDOLPH, MA

BETA JOB NO. 11615
ISSUE DATE 03/09/2026
SHEET NO. 9 OF 13

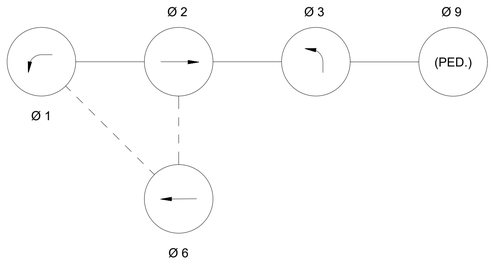
3/9/2026 10:58 AM O:\11600\S\11615 - RANDOLPH, MA - MAIN ST & CENTER ST\DRAWING FILES\PLANSET\11615 SIGN, PAVEMENT MARKING, TRAFFIC SIGN SUMMARY & SIGNAL PLAN.DWG PLOTSTYLE (BETA.STB,BW.STB) USER(ARITH) ######## TEMPLATE ######## ######## CIVIL 3D (####)

SEQUENCE AND TIMING CHART FOR FULLY ACTUATED SIGNAL CONTROL (ISOLATED)																		
PHASE/EMERGENCY PRE-EMPTION			Ø1			Ø2			Ø3			Ø6			Ø9			FLASH OPER.
STREET	DIRECTION	HOUSINGS	1	2	3	4	5	6	7	8	9	10	11	12	19	20	21	
SOUTH MAIN STREET (RT 28)	NB	A,B	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	FY
SOUTH MAIN STREET (RT 28)	SB	C	←G/G	←Y/G	←Y/G	R	R	R	R	R	R	G	Y	R	R	R	R	FY
SOUTH MAIN STREET (RT 28)	SB	D	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R	FY
CENTRE STREET	WB	E,F,G	R	R	R	R	R	R	G	Y	R	R	R	R	R	R	R	FR
PEDESTRIAN	ALL	P1-P8	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	OFF
TIMING IN SECONDS																		
MINIMUM GREEN			5			10			5			10						EMERGENCY ONLY
VEHICLE EXTENSION			3			3			3			3						
MAXIMUM GREEN I (ALL OTHER TIMES)			5			54			18			64.5						
MAXIMUM GREEN II (4:00 PM - 7:00 PM MON - FRI)			6			78			14			89.5						
CLEARANCE INTERVAL				4	1.5		4	1.5		3	3		4	1.5			4	
WALK/CLEARANCE/BUFFER INTERVAL															7	15		
DETECTOR MEMORY			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			LOCKING			
RECALL SWITCH			OFF			SOFT			OFF			SOFT			OFF			

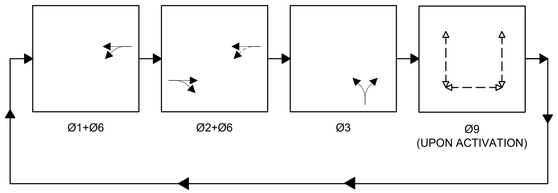
VIDEO DETECTOR DATA

DETECTOR NO.	VIDEO CAMERA NO.	NO. SECTION/ SIZE	OPERATIONS	CALL DELAY (SECONDS)	CALL PHASE	EXTEND PHASE
1	1	6'x50'	PRESENCE	0	Ø2	Ø2
2	1	6'x10'	BICYCLE	0	Ø2	Ø2
3	1	6'x50'	PRESENCE	0	Ø1	Ø6
4	1	4'x10'	BICYCLE	0	Ø6	Ø6
5	1	13'x30'	PRESENCE	0	Ø3	Ø3
6	1	10'x15'	PRESENCE	0	Ø3	Ø3

NEMA DUAL RING PHASING NOTES:



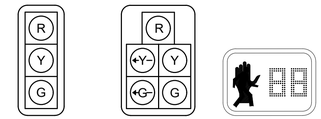
1. PHASES ASSOCIATED BY A SOLID LINE SHALL NOT OPERATE CONCURRENTLY.
2. PHASES ASSOCIATED BY A DASHED LINE MAY OPERATE CONCURRENTLY.
3. THROUGH MOVEMENTS MAY INCLUDE RIGHT TURNS.



PROPOSED PREFERENTIAL PHASE SEQUENCE

TRAFFIC SIGNAL NOTES:

1. IF THE ASSIGNED RIGHT-OF-WAY FOR ANY TRAFFIC MOVEMENT IS TO REMAIN IN EFFECT DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATIONS FOR THAT TRAFFIC MOVEMENT WILL NOT CHANGE DURING THE CLEARANCE INTERVAL.
2. IF THE ASSIGNED RIGHT-OF-WAY FOR ANY TRAFFIC MOVEMENT IS TO CHANGE DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATION FOR THAT TRAFFIC MOVEMENT WILL DISPLAY THE APPROPRIATE CLEARANCE INTERVALS.
3. FLASHING OPERATION IS FOR EMERGENCY OPERATION ONLY. THE SIGNAL SHALL PROVIDE STOP AND GO OPERATION 24 HOURS DAILY.
4. PEDESTRIAN PHASE TO BE ACTIVATED BY PEDESTRIAN PUSH-BUTTON ONLY.
5. OPTICAL DETECTORS SHALL BE LOCATED FOR OPTIMUM SIGHT DISTANCE.
6. PEDESTRIAN PUSHBUTTONS AND SIGNS SHALL BE LOCATED IN ACCORDANCE WITH THE 2023 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (FIG. 4I-2) AND POINTED PARALLEL TO THE CROSSWALK.



LOCATION: A,B,D,E,F,G — LOCATION: C — LOCATION: P1-P6

SIGNAL HEAD DESIGNATIONS
NOT TO SCALE

SIGNAL HEAD NOTES

1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES AND TUNNEL VISORS.
2. ALL SIGNAL BACKPLATES SHALL BE 5" NON-LOUVERED WITH 3" YELLOW RETROREFLECTIVE BORDER.
3. ALL SIGNAL LENSES SHALL BE 12" DIA. LED.
4. ALL PEDESTRIAN SIGNAL HEADS SHALL DISPLAY INTERNATIONAL SYMBOLS - (HAND)/(PERSON WALKING) WITH COUNTDOWN DISPLAYS.
5. ALL PEDESTRIAN SIGNAL HEADS SHALL HAVE 16" LED LENSES AND SUN VISORS.
6. ALL SIGNAL HEADS SHALL BE FIXED MOUNTED.

PRE-EMPTION PHASING & PRIORITY

PRIORITY	RECEIVER	PRE-EMPT PHASE ASSIGNMENT	MOVEMENT	VEHICLE PHASE ASSIGNMENT
1	R1	1	SB	Ø1+Ø6
2	R2	2	NB	Ø2
3	R3	3	WB	Ø3

EMERGENCY PREEMPTION NOTES:

1. UPON PREEMPTION ACTIVATION, PHASE(S) BEING SERVICED SHALL IMMEDIATELY BEGIN CLEARANCE (I.E., YELLOW AND ALL RED) AS DESIGNED, EXCEPT FOR WHEN PHASE(S) CALLED BY PREEMPTION ARE CURRENTLY IN SERVICE. WHEN PHASE(S) CURRENTLY IN SERVICE MATCH PHASE(S) CALLED BY PREEMPTION, SIGNAL INDICATIONS ARE MAINTAINED. HOWEVER, PREEMPTION OPERATION (I.E. TIMING) SUPERCEDES NORMAL TRAFFIC SIGNAL CONTROL.
2. AFTER THE PREEMPTION SEQUENCE HAS TERMINATED, THE SIGNAL SHALL RETURN TO THE BEGINNING OF Ø2 & Ø6.
3. THE PREEMPTION STROBE SHALL BE ILLUMINATED ONLY WHEN THE PREEMPTED PHASE IS DISPLAYING A GREEN INDICATION.
4. A SEPARATE CABLE SHALL BE RUN FOR THE PREEMPTION STROBE. IT MAY NOT BE RUN ON THE SPARE SIGNAL CABLE.
5. EMERGENCY PREEMPTION SHALL COME ON A FIRST-COME FIRST-SERVED BASIS.

MAJOR ITEMS - (SOUTH MAIN ST AT CENTRE ST)		
ITEM NO.	QUANTITY	DESCRIPTION
815.1	1	ADVANCED TRAFFIC CONTROLLER (TS2, TYPE 1), LOCATED IN BASE MOUNTED ATC CABINET TYPE P4, WITH FOUNDATION AND CONCRETE PAD
	1	35' MAST ARM, TYPE II, STEEL MONOLEVER WITH FOUNDATION
	1	TRAFFIC SIGNAL POST AND BASE STANDARD - 10' STEEL
	4	TRAFFIC SIGNAL POST AND BASE STANDARD - 8' STEEL
	1	TRAFFIC SIGNAL POST AND BASE STANDARD - 4' STEEL
	1	SIGNAL HEAD, 1-WAY, 5 SECTION, 12" LENSES
	6	SIGNAL HEAD, 1-WAY, 3 SECTION, 12" LENSES
	1	5" 5-SECTION BACKPLATES WITH 3" RETROREFLECTIVE YELLOW BORDER
	6	5" 3-SECTION BACKPLATES WITH 3" RETROREFLECTIVE YELLOW BORDER
	6	PEDESTRIAN SIGNAL HEAD, 1-WAY, 1 SECTION, 16" WITH COUNTDOWN
	5	AUDIBLE & VIBRO-TACTILE PEDESTRIAN PUSHBUTTON INTEGRATED SIGN & SADDLE WITH LED CONFIRMATION LIGHT
	1	SINGLE POINT VIDEO DETECTION CAMERA
	2	VIDEO PROCESSOR (2 CHANNEL)
	1	SERVICE CONNECTION (UNDERGROUND)
	3	OPTICAL DETECTOR, UNIDIRECTIONAL, SINGLE CHANNEL
	2	2 CHANNEL PHASE SELECTOR
	1	CARD RACK
	1	EMERGENCY PRE-EMPTION CONFIRMATION STROBE (WHITE)
804.3	670	3 " ELECTRICAL CONDUIT TYPE NM - PLASTIC (UL)
811.31	4	PULL BOX, 12" X 12"
811.23	2	ELECTRIC HANDHOLE, 24" X 24"
PLUS ALL MISCELLANEOUS EQUIPMENT AND MATERIAL NECESSARY TO PROVIDE A COMPLETE OPERATING TRAFFIC CONTROL SIGNAL.		

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: AR
DESIGNED BY: IA
CHECKED BY: GS

REGISTERED PROFESSIONAL

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

SCALE: NOT TO SCALE
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE: **SOUTH MAIN STREET & CENTRE STREET INTERSECTION IMPROVEMENTS**
SIGNAL DATA
RANDOLPH, MA

BETA JOB NO. 11615
ISSUE DATE 03/09/2026
SHEET NO. 10 OF 13

3/9/2026 10:58 AM O:\11600\SI\11615 - RANDOLPH, MA - MAIN ST & CENTER ST\DRAWING FILES\PLANSET\11615 SIGN, PAVEMENT MARKING, TRAFFIC SIGN SUMMARY & SIGNAL PLAN.DWG ########## TEMPLATE (##########.DWG) ########## ########## ##########

NOTES:

1. ALL TEMPORARY TRAFFIC CONTROL WORK SHALL CONFORM TO THE 2023 EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND ALL REVISIONS.
2. ALL SIGN LEGENDS, BORDERS AND MOUNTING SHALL BE IN ACCORDANCE WITH THE MUTCD, EXCEPT THAT BACKGROUND COLOR SHALL BE FLUORESCENT ORANGE, IN ACCORDANCE WITH MASSDOT SPECIFICATIONS.
3. TEMPORARY CONSTRUCTION SIGNING AND ALL OTHER TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF ANY WORK.
4. TEMPORARY CONSTRUCTION SIGNING, BARRICADES AND ALL OTHER NECESSARY WORK ZONE TRAFFIC CONTROL DEVICES SHALL BE REMOVED FROM THE HIGHWAY OR COVERED WHEN THEY ARE NOT REQUIRED FOR CONTROL OF TRAFFIC.
5. SIGNS AND SIGN SUPPORTS LOCATED ON OR NEAR THE TRAVELED WAY, AND REFLECTORIZED PLASTIC DRUMS WITH LIGHTING DEVICES MOUNTED ON THEM, MUST PASS THE CRITERIA SET FORTH IN NCHRP REPORT 350, "RECOMMENDED PROCEDURES FOR THE SAFETY PERFORMANCE EVALUATION OF HIGHWAY FEATURES" AND/OR "MANUAL FOR ASSESSING SAFETY HARDWARE" (MASH).
6. CONTRACTORS SHALL NOTIFY EACH ABUTTER AT LEAST 48 HOURS IN ADVANCE OF THE START OF ANY WORK THAT WILL REQUIRE THE TEMPORARY CLOSURE OF ACCESS, SUCH AS CONDUIT INSTALLATION, EXISTING PAVEMENT EXCAVATION, TEMPORARY DRIVEWAY PAVEMENT PLACEMENT AND SIMILAR OPERATIONS.
7. THE FIRST TEN PLASTIC DRUMS OF A TAPER SHALL BE MOUNTED WITH SEQUENTIAL FLASHING LIGHTS.
8. THE ADVISORY SPEED LIMIT, IF REQUIRED, SHALL BE DETERMINED BY THE MASSDOT ENGINEER.
9. DISTANCES ARE A GUIDE AND MAY BE ADJUSTED IN THE FIELD BY THE TOWN ENGINEER.
10. MAXIMUM SPACING OF TRAFFIC DEVICES IN A TAPER (DRUMS OR CONES) IS EQUAL IN FEET TO THE SPEED LIMIT IN MPH.
11. MINIMUM LANE WIDTH IS TO BE 11 FEET UNLESS OTHERWISE SHOWN. MINIMUM LANE WIDTH TO BE MEASURED FROM THE EDGE OF DRUMS OR MEDIAN BARRIER.
12. ALL SIGNS SHALL BE MOUNTED ON THEIR OWN STANDARD SIGN SUPPORTS.
13. TEMPORARY CONSTRUCTION SIGNING AND ALL OTHER NECESSARY WORK ZONE TRAFFIC CONTROL NOT COVERED IN THE PLAN SHALL REFER TO MASSDOT "STANDARD DETAILS AND DRAWINGS FOR THE DEVELOPMENT OF TRAFFIC MANAGEMENT PLANS".
14. NO WORK REQUIRING LANE CLOSURES SHALL BE ALLOWED BETWEEN 7:00 AND 9:00 AM OR BETWEEN 4:00 AND 6:00 PM.

PCMS-1
PCMS-2

S MAIN ST ROAD WORK	STARTS XX/XX
FRAME 1	FRAME 2

NOTE: MESSAGE TO BE DISPLAYED TWO WEEKS PRIOR TO ROAD WORK.

PCMS-3

CENTRE ST ROAD WORK	STARTS XX/XX
FRAME 1	FRAME 2

NOTE: MESSAGE TO BE DISPLAYED TWO WEEKS PRIOR TO ROAD WORK.

PCMS-1
PCMS-2

S MAIN ST ROAD WORK	SEEK ALT ROUTE
FRAME 1	FRAME 2

NOTE: MESSAGE TO BE DISPLAYED FOR THE FIRST TWO WEEKS OF ROAD WORK.

PCMS-3

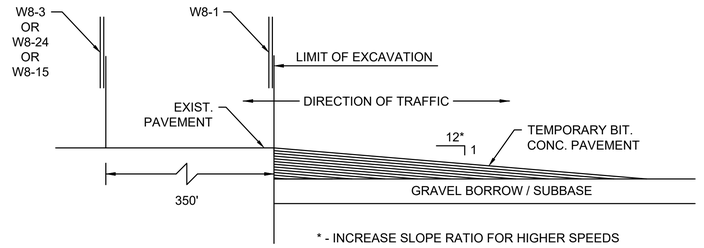
CENTRE ST ROAD WORK	SEEK ALT ROUTE
FRAME 1	FRAME 2

NOTE: MESSAGE TO BE DISPLAYED FOR THE FIRST TWO WEEKS OF ROAD WORK.

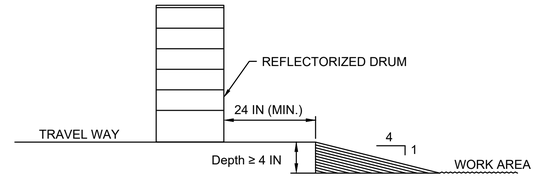
PCMS MESSAGES

LEGEND:

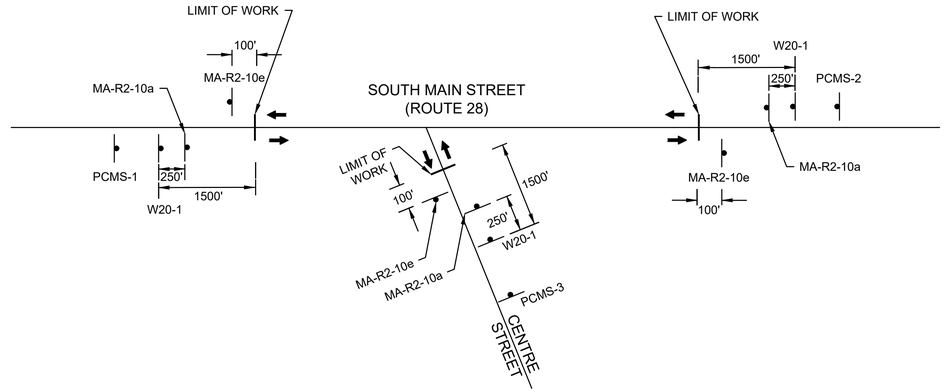
- REFLECTORIZED PLASTIC DRUM
- TYPE III BARRICADE
- FLASHING ARROW PANEL
- FLASHING ARROW PANEL
- WORK ZONE
- DIRECTION OF TRAFFIC
- IMPACT ATTENUATOR
- MEDIAN BARRIER
- MEDIAN BARRIER WITH WARNING LIGHTS
- WORK VEHICLE
- TRUCK MOUNTED ATTENUATOR
- TRAFFIC OR PEDESTRIAN SIGNAL
- SIGN
- P — POLICE DETAIL
- F — FLAGGER



LONGITUDINAL DROP-OFF DETAIL
NOT TO SCALE



LATERAL DROP-OFF DETAIL
NOT TO SCALE



TYPICAL INTERSECTION PROJECT LIMIT SIGNING
NOT TO SCALE

WORK ZONE SIGN SPACING

ROAD TYPE	DISTANCE BETWEEN SIGNS (IN FEET) *			PROJECT ROADWAY CLASSIFICATION
	A	B	C	
LOCAL/LOW VOLUME ROADWAYS	350	350	350	
MOST OTHER ROADWAYS	500	500	500	SOUTH MAIN STREET (ROUTE 28) CENTRE STREET
FREEWAYS AND EXPRESSWAYS	1,000	1,000	1,000	

* A = DISTANCE FROM TRANSITION/POINT OF RESTRICTION TO FIRST SIGN
B = DISTANCE BETWEEN FIRST AND SECOND SIGN
C = DISTANCE BETWEEN SECOND AND THIRD SIGN (INITIAL WARNING SIGN)

TAPER LENGTH

SPEED LIMIT	FORMULA	POSTED SPEED/ 85TH PERCENTILE
40 MPH OR LESS	$L = (W*S^2) / 60$	37 MPH (85TH PERCENTILE) SOUTH MAIN STREET (ROUTE 28)
45 MPH OR GREATER	L = W*S	N/A

WHERE: L = TAPER LENGTH IN FEET
W = WIDTH OF OFFSET IN FEET
S = POSTED SPEED LIMIT, OR OFF-PEAK 85TH PERCENTILE SPEED PRIOR TO WORK STARTING IN MPH

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: AR
DESIGNED BY: AR
CHECKED BY: GS

REGISTERED PROFESSIONAL

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

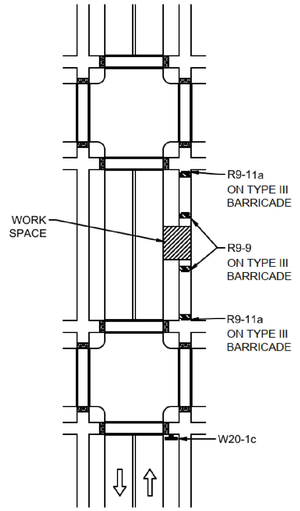
SCALE: NOT TO SCALE

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

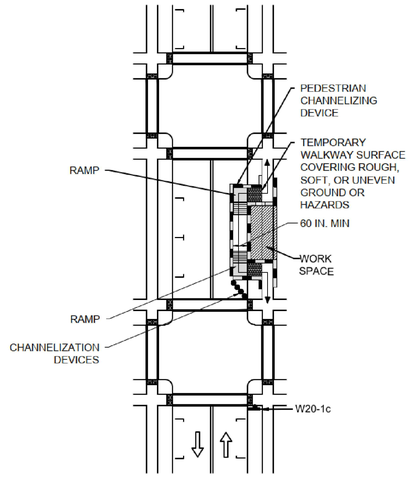
TITLE: **SOUTH MAIN STREET & CENTRE STREET INTERSECTION IMPROVEMENTS**
TEMPORARY TRAFFIC CONTROL PLAN
RANDOLPH, MA

BETA JOB NO. 11615
ISSUE DATE 03/09/2026
SHEET NO. 11 OF 13

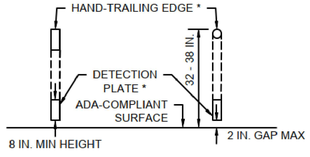
3/9/2026 10:58 AM BETA GROUP INC. TEMPLATE (BETA_STANDARD_TEMPLATE - 1.0.2024) CIVIL 3D (CIVIL 3D 2024) PLOTSTYLE (BETA.STB BW.STB) USER(ARITH) O:\11600\S\11615 - RANDOLPH, MA - MAIN ST & CENTER ST\DRAWING FILES\PLANSET\11615 TEMPORARY TRAFFIC CONTROL PLAN.DWG



SIDEWALK DETOUR
NOT TO SCALE



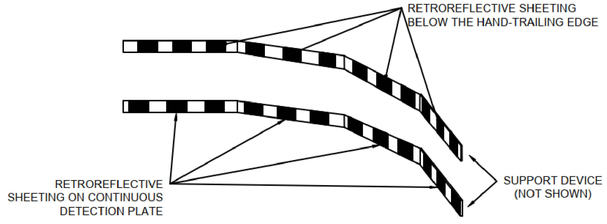
SIDEWALK DIVERSION
NOT TO SCALE



CROSS SECTION VIEW

* THE HAND-TRAILING EDGE AND DETECTION PLATE SHALL BE CONTINUOUS THROUGHOUT THE LENGTH OF THE PATH SUCH THAT A PEDESTRIAN USER WITH A LONG CANE CAN FOLLOW IT.

STANDARD RETROREFLECTIVE LAYOUT FOR PEDESTRIAN CHANNELIZING DEVICES

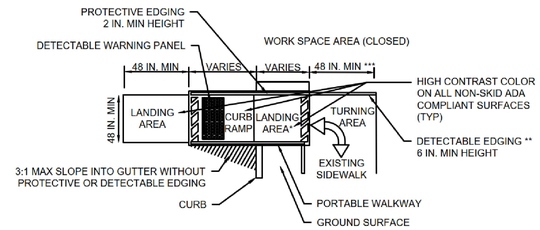

RETROREFLECTIVE SHEETING BELOW THE HAND-TRAILING EDGE
RETROREFLECTIVE SHEETING ON CONTINUOUS DETECTION PLATE
SUPPORT DEVICE (NOT SHOWN)

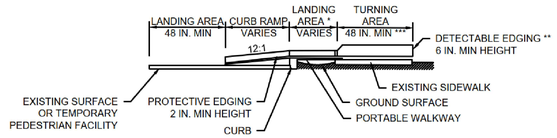
ISOMETRIC VIEW

NOTES:

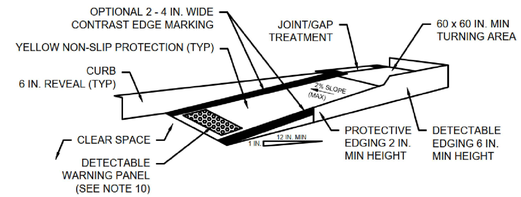
1. A MAXIMUM 2-INCH GAP BETWEEN THE BOTTOM OF THE CONTINUOUS DETECTION PLATE AND THE WALKWAY SURFACE MAY BE USED TO PROVIDE DRAINAGE.
2. HAND-TRAILING EDGE AND DETECTION PLATE ARE OPTIONAL FOR CONTINUOUS WALLS.
3. SUPPORT DEVICE FOR CONTINUOUS DETECTION PLATE AND CONTINUOUS HAND-TRAILING EDGE NOT SHOWN ON THE PLAN.
4. STRIPING ON SHEETING PANELS MAY BE EITHER VERTICAL OR AT A 45-DEGREE ANGLE.
5. RETROREFLECTIVE AREAS CAN BE DISTRIBUTED IN A MANNER THAT ENSURES VISIBILITY AND DETECTION WITHOUT NECESSITATING A SINGLE CONTINUOUS APPLICATION.

PEDESTRIAN CHANNELIZING DEVICE
NOT TO SCALE

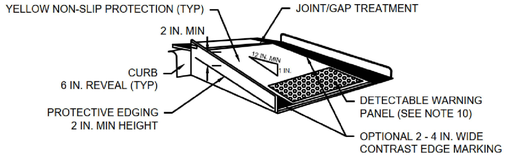




TEMPORARY CURB RAMP


OPTIONAL 2 - 4 IN. WIDE CONTRAST EDGE MARKING
JOINT/GAP TREATMENT
60 x 60 IN. MIN TURNING AREA
YELLOW NON-SLIP PROTECTION (TYP)
CURB 6 IN. REVEAL (TYP)
2% SLOPE (MAX)
CLEAR SPACE
1 IN
12 IN. MIN
PROTECTIVE EDGING 2 IN. MIN HEIGHT
DETECTABLE EDGING 6 IN. MIN HEIGHT
DETECTABLE WARNING PANEL (SEE NOTE 10)

TEMPORARY CURB RAMP-PARALLEL TO CURB


YELLOW NON-SLIP PROTECTION (TYP)
JOINT/GAP TREATMENT
2 IN. MIN
2% SLOPE (MAX)
CURB 6 IN. REVEAL (TYP)
1 IN
PROTECTIVE EDGING 2 IN. MIN HEIGHT
DETECTABLE WARNING PANEL (SEE NOTE 10)
OPTIONAL 2 - 4 IN. WIDE CONTRAST EDGE MARKING

TEMPORARY CURB RAMP-PERPENDICULAR TO CURB

* LANDING AREA USED TO OVERLAP NON-ADA COMPLIANT SURFACES.
** DETECTABLE EDGING REMOVED IF A CONTINUOUS SIDEWALK.
*** 60 IN. MINIMUM IF AN OBSTRUCTION IS AT BACK OF SIDEWALK.

NOTES:

1. CURB RAMPS SHALL BE 60 IN. MINIMUM WIDTH WITH A FIRM, STABLE, AND NON-SLIP SURFACE.
2. PROTECTIVE EDGING WITH A 2 IN. MINIMUM HEIGHT SHALL BE INSTALLED WHEN THE CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6 IN. OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN THE CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3 IN. OR MORE.
3. DETECTABLE EDGING WITH 6 IN. MINIMUM HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
4. THE CURB RAMP WALKWAY AND LANDING AREA SURFACE SHALL BE OF A SOLID CONTINUOUS CONTRASTING COLOR ABUTTING UP TO THE EXISTING SIDEWALK.
5. CURB RAMPS AND LANDINGS SHOULD HAVE A 1:50 (2%) MAXIMUM CROSS-SLOPE.
6. CLEAR SPACE OF 48 x 48 IN. MINIMUM SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
7. WATER FLOW IN THE GUTTER SYSTEM SHALL HAVE MINIMAL RESTRICTION.
8. LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 0.5 IN. WIDTH.
9. CHANGES BETWEEN SURFACE HEIGHTS SHOULD NOT EXCEED 0.5 IN. LATERAL EDGES SHOULD BE VERTICAL UP TO 0.25 IN. HIGH, AND BEVELED AT 1:2 BETWEEN 0.25 IN. AND 0.5 IN. HEIGHT.
10. IF A TEMPORARY PEDESTRIAN RAMP LEADS TO A CROSSWALK, THEN A DETECTABLE WARNING PANEL MUST BE ADHERED TO THE BASE OF THE RAMP. IF IT LEADS TO A PROTECTED PEDESTRIAN BYPASS THAT DOES NOT CONFLICT WITH VEHICULAR TRAFFIC, THEN A DETECTABLE WARNING PANEL SHALL NOT BE INSTALLED ON THE RAMP.

TEMPORARY CURB RAMP
NOT TO SCALE

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: AR
DESIGNED BY: AR
CHECKED BY: GS

REGISTERED PROFESSIONAL

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

SCALE: NOT TO SCALE

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE: **SOUTH MAIN STREET & CENTRE STREET INTERSECTION IMPROVEMENTS**
TEMPORARY TRAFFIC CONTROL PLAN
RANDOLPH, MA

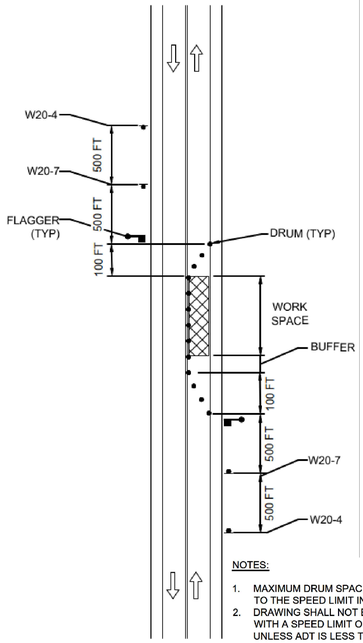
BETA JOB NO. 11615
ISSUE DATE 03/09/2026
SHEET NO. 12 OF 13

3/9/2026 10:58 AM BETA GROUP INC. TEMPLATE (BETA_STANDARD_TEMPLATE - 1.0.2024) CIVIL 3D (CIVIL 3D 2024) PLOTSTYLE (BETA STB BW.STB) USER(ARITH) O:\11600\S\11615 - RANDOLPH, MA - MAIN ST & CENTER ST\DRAWING FILES\PLANSET\11615 TEMPORARY TRAFFIC CONTROL PLAN.DWG

TEMPORARY TRAFFIC SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	DIMENSIONS (in)			NUMBER OF SIGNS REQUIRED	COLOR			UNIT AREA IN SQUARE FEET	AREA IN SQUARE FEET
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW		BACKGROUND	LEGEND	BORDER		
MA-R2-10a	48 in	36 in	WORK ZONE / SPEEDING FINES DOUBLED	SEE MASSDOT STANDARDS			3	ORANGE* /WHITE	BLACK	BLACK	12.0	36.0
MA-R2-10e	36 in	48 in	END ROAD WORK / DOUBLE FINES END				3	ORANGE* /WHITE	BLACK	BLACK	12.0	36.0
W1-4R	36 in	36 in		SEE 2023 MUTCD STANDARDS			2	ORANGE*	BLACK	BLACK	9.0	18.0
W1-4L	36 in	36 in					2	ORANGE*	BLACK	BLACK	9.0	18.0
W5-1	36 in	36 in	ROAD NARROWS				2	ORANGE*	BLACK	BLACK	9.0	18.0
W20-1	36 in	36 in	ROAD WORK 5000 FT				3	ORANGE*	BLACK	BLACK	9.0	27.0
W20-4	36 in	36 in	ONE LANE ROAD AHEAD				2	ORANGE*	BLACK	BLACK	9.0	18.0
W20-7	36 in	36 in					2	ORANGE*	BLACK	BLACK	9.0	18.0
MA-W20-7b	36 in	36 in	POLICE OFFICER AHEAD	SEE MASSDOT STANDARDS			2	ORANGE*	BLACK	BLACK	9.0	18.0
W21-5	36 in	36 in	SHOULDER WORK	SEE 2023 MUTCD STANDARDS			2	ORANGE*	BLACK	BLACK	9.0	18.0

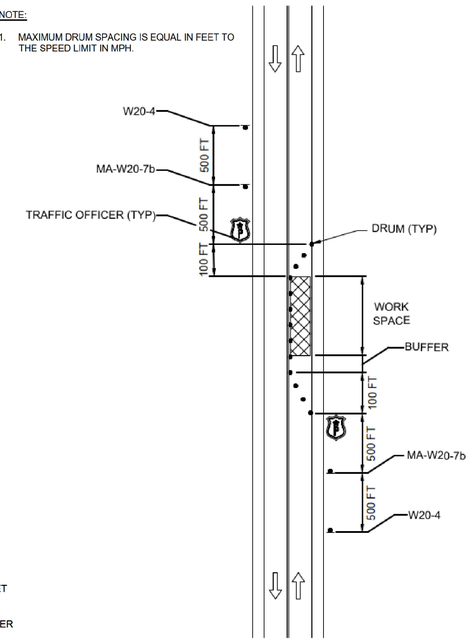
NOTES:
1. NUMBER OF SIGNS ARE ESTIMATED FOR BIDDING PURPOSES ONLY.
2. HIGH INTENSITY ENCAPSULATED LENS REFLECTIVE SHEETING CONFORMING TO SECTION M9:30.0, TYPE III OR IV, OF THE MASSDOT STANDARD SPECIFICATIONS SHALL BE USED FOR ALL SIGNS.
3. SEE THE 2023 "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND "STANDARD HIGHWAY SIGNS" FOR THE LATEST SPECIFICATIONS ON TEXT DIMENSIONS AND COLOR. (ALSO SEE SECTION M9.30.0 TYPE III MASSDOT STANDARD SPECIFICATION, THE "MASSACHUSETTS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES," AND "GUIDE SIGN POLICY FOR SECONDARY STATE HIGHWAYS" (LATEST EDITIONS) BY THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION).
4. FYG: FLUORESCENT YELLOW GREEN.
5. * = FLUORESCENT ORANGE



NOTES:
1. MAXIMUM DRUM SPACING IS EQUAL IN FEET TO THE SPEED LIMIT IN MPH.
2. DRAWING SHALL NOT BE USED ON ROADS WITH A SPEED LIMIT OF 45 MPH OR GREATER UNLESS ADT IS LESS THAN 4,000 VPD.

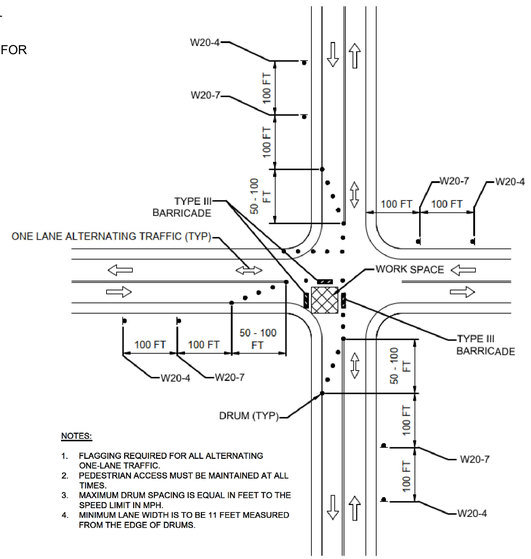
ALTERNATING ONE-WAY (FLAGGER CONTROL) MASSDOT CONSTRUCTION STANDARD DRAWING NUMBER 852.4.1
NOT TO SCALE

NOTE:
1. MAXIMUM DRUM SPACING IS EQUAL IN FEET TO THE SPEED LIMIT IN MPH.



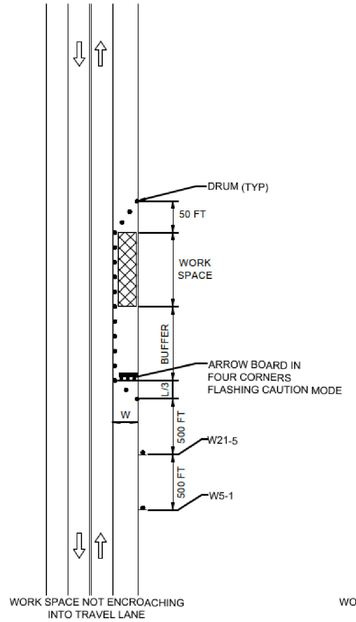
ALTERNATING ONE-WAY (TRAFFIC OFFICER) MASSDOT CONSTRUCTION STANDARD DRAWING NUMBER 852.4.4
NOT TO SCALE

NOTES:
1. MAXIMUM DRUM SPACING IS EQUAL IN FEET TO THE SPEED LIMIT IN MPH.
2. MINIMUM LANE WIDTH IS TO BE 11 FEET MEASURED FROM THE EDGE OF DRUMS.



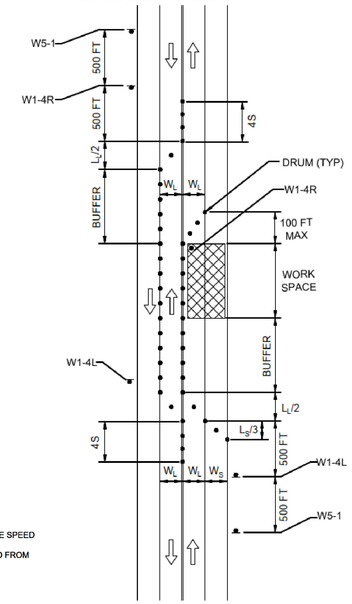
NOTES:
1. FLAGGING REQUIRED FOR ALL ALTERNATING ONE-LANE TRAFFIC.
2. PEDESTRIAN ACCESS MUST BE MAINTAINED AT ALL TIMES.
3. MAXIMUM DRUM SPACING IS EQUAL IN FEET TO THE SPEED LIMIT IN MPH.
4. MINIMUM LANE WIDTH IS TO BE 11 FEET MEASURED FROM THE EDGE OF DRUMS.

INTERSECTION QUADRANT CLOSURE MASSDOT CONSTRUCTION STANDARD DRAWING NUMBER 852.10.2
NOT TO SCALE



NOTES:
1. MAXIMUM DRUM SPACING IS EQUAL IN FEET TO THE SPEED LIMIT IN MPH.
2. MINIMUM LANE WIDTH IS TO BE 11 FEET MEASURED FROM THE EDGE OF DRUMS.

TWO LANE ROAD SHOULDER CLOSURE MASSDOT CONSTRUCTION STANDARD DRAWING NUMBER 852.5.3
NOT TO SCALE



TWO LANE ROAD HALF ROAD CLOSURE MASSDOT CONSTRUCTION STANDARD DRAWING NUMBER 852.5.4
NOT TO SCALE

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: AR
DESIGNED BY: AR
CHECKED BY: GS

REGISTERED PROFESSIONAL

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

SCALE: NOT TO SCALE
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE: **SOUTH MAIN STREET & CENTRE STREET INTERSECTION IMPROVEMENTS**
TEMPORARY TRAFFIC CONTROL PLAN
RANDOLPH, MA

BETA JOB NO. 11615
ISSUE DATE 03/09/2026
SHEET NO. 13 OF 13

BETA GROUP INC. TEMPLATE (BETA_STANDARD_TEMPLATE - 1.0.2024) CIVIL 3D (CIVIL 3D 2024) PLOTSTYLE (BETA STB BW.STB) USER(ARITH) O:\11600\S\11615 - RANDOLPH, MA - MAIN ST & CENTER ST\DRAWING FILES\PLANSET\11615 TEMPORARY TRAFFIC CONTROL PLAN.DWG
3/9/2026 10:58 AM